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No. 21

## Fertilizer Consumption Drops 2% USDA Lowers Plant Nutrient Supply Estimate

### — SUPPLIES —

#### New Report Notes Lag in Season Sales

WASHINGTON — The estimated 1954-55 supply of nitrogen for fertilizer purposes will be about 5% higher than that for the 1953-54 season, according to a supplemental "Fertilizer Situation" report issued by the U.S. Department of Agriculture.

The supply of potash for this season is estimated at 0.6% higher than that for a year ago, but the phosphorus supply will be 3.3% lower.

The report, prepared by A. L. Mehring and C. A. Graham, Commodity Stabilization Service, Food & Materials Requirements Division, USDA, supplements an earlier estimate issued last September. (See page 1 of the Oct. 4 issue of Croplife.)

The new report scales downward the estimates made in the September report on the expected supply of all three primary plant nutrients.

Here's how USDA now sees the supply situation for the current fiscal year:

**Nitrogen**—Supply for the year ending next June 30 is estimated at 2,126,000 tons, 5.2% more than the 1953-54 supply of 2,020,000 tons. In September, it was estimated that the current year's supply of Nitrogen would be 2,200,000 tons.

**Phosphorus**—It now appears that the domestic supply of  $P_2O_5$  this year will be 2,286,000 tons, 3.3% less than the 2,364,000 tons available a year earlier. The September estimate had

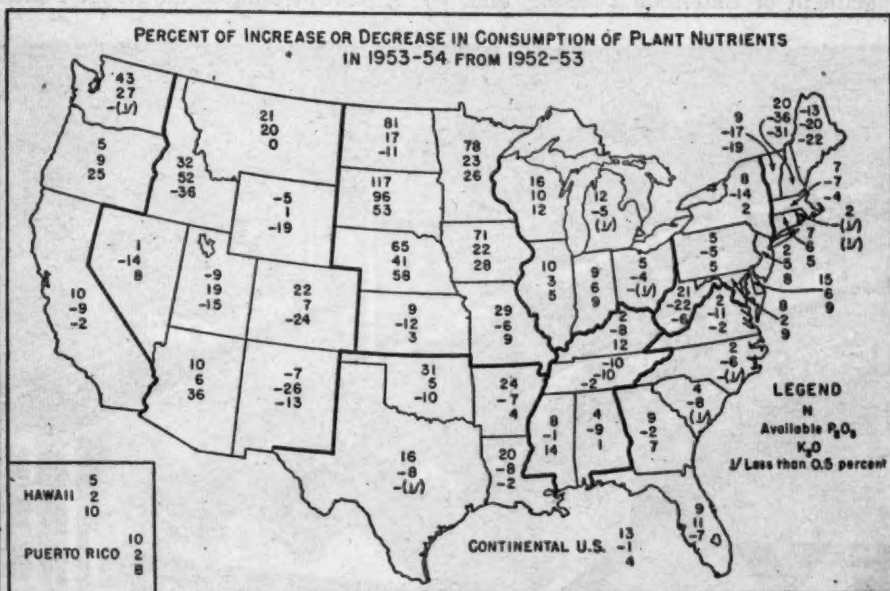
(Continued on page 6)

#### Korean Fertilizer Plant Planned by Two American Firms

NEW YORK—A \$25 million chemical fertilizer plant will be built at Chung-Ju in South Korea by McGraw-Hydrocarbon, Inc., a joint venture of F. H. McGraw & Co., and Hydrocarbon Research, Inc., both of New York, it was announced here May 18.

The new plant will produce 250 metric tons prilled urea daily, according to W. J. Norton, sales manager of Hydrocarbon and a director of the newly-formed firm.

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## Hoover Commission Criticizes Fertilizer Production and Sales Activities of TVA; Suggests Research Be Shifted to USDA

By JOHN CIPPERLY  
Croplife Washington Correspondent

WASHINGTON—The Hoover Commission for the reorganization of the executive branch of the federal government has fired a hot barrage at Uncle Sam, who is seen as a competitor of private industry at virtually every cross-roads and street corner of the nation.

On the subject of TVA activity in the production and sale of fertilizer in competition with private producers, the task force of the Hoover Commission has some direct recommendations which it has sent to Congress.

It recommends that TVA discontinue all chemical research and that its fertilizer research facilities be transferred to the U.S. Department of Agriculture. It also recommends that Congress "instruct the comptroller general to determine what the real costs of TVA fertilizer production are; and that thereafter the price of the fertilizer include all costs, direct and indirect, including the loss of taxes which could be obtained from private industry."

The task force noted the entering wedge of TVA in fertilizer production and sales when it started nitrogen production for World War II requirements after the federal government advanced funds for a synthetic ammonia plant.

These facilities were, according to the commission, "no longer required for military use after April, 1943. Yet these facilities were converted to the production of ammonium nitrate fertilizer. The end of the war found the TVA with greatly expanded facilities for the production of both phosphate and nitrate fertilizers."

Continuing, the report says, "over the years the enterprise has steadily expanded in competition with

(Continued on page 21)

## Pittsburgh Coke Acquires Program Of Ethyl Corp.

PITTSBURGH — Pittsburgh Coke & Chemical Co. has completed arrangements whereby it has acquired the agricultural chemicals program recently terminated by Ethyl Corp.

Under the agreement, Pittsburgh Coke & Chemical will continue the further evaluation, development and marketing of products that have been investigated in Ethyl's research program with promising results.

One of the compounds in this program is the new fungicide B-622, which was recently publicized and which will be extensively field-tested this year. The complete program includes chemicals for use as insecticides, fungicides, herbicides, defoliants and growth regulators.

### — USE —

## Plant Nutrient Use Up, Says USDA Report

WASHINGTON — Fertilizer consumption in the U.S. and territories dipped 2% in tonnage in 1953-54 season, but use of primary plant nutrients rose to an all-time high, according to the annual U.S. Department of Agriculture fertilizer consumption report.

It shows that consumption for the fiscal year reached 22,773,499 tons, a 2% decrease from the all-time high of 23,412,608 tons in the 1952-53 season.

Use of primary plant nutrients rose to 5,895,558 tons, a gain of 4.4% from 5,646,056 in 1952-53.

The report was prepared by Walter Scholl, Hilda M. Wallace and Esther I. Fox of the Fertilizer and Agricultural Lime Section, Soil and Water Conservation Research Branch, Agricultural Research Service, USDA, at Beltsville.

(Continued on page 20)

## CALIFORNIA FIRM PLANS NH<sub>3</sub> PLANT

MERCED, CAL. — The Merced County Planning Commission has issued a permit to the Ammonia Chemical Corporation of California for construction of a \$3.25 million anhydrous ammonia plant in the Red Top District near here.

### Firm Incorporates

DOVER, DEL.—Brandt & Gardner Fertilizer, Inc., filed a charter of incorporation with the corporation department of the secretary of state's office here. Authorized capital stock of the firm is 200 shares of stock, no par value. Prentice-Hall Corporation System, Inc., Dover, Del., is serving as the principal office.

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# Record Crowd Expected at First NPFI Meet

WHITE SULPHUR SPRINGS, W. VA.—An inspirational and instructive program featuring leaders of both government and industry is in final form to be presented at the preliminary convention of the National Plant Food Institute at the Greenbrier Hotel here June 12-15. More than 800 are expected to register for the event.

A panel discussion on "Problems Relating to Fertilizer-Pesticide Mixtures" is scheduled for the morning of June 13, with M. V. Bailey, technical director of the Agricultural Chemicals Division, American Cyanamid Co., as moderator. Comprising the remainder of the panel will be Dr. K. D. Jacob, head, Fertilizer and Lime Section, U.S. Department of Agriculture, Beltsville, Md.; C. T. Harding, general manager, Fertilizer Division, Virginia-Carolina Chemical Corp., Richmond, Va.; John D. Conner, attorney, and counsel for the

National Agricultural Chemicals Assn., Washington, D.C.; and Rodney C. Berry, Virginia state chemist, Richmond, Va.

E. A. Geoghegan, Southern Cotton Oil Co., New Orleans, La., and chairman of the NFA board of directors, will preside at the first general session, set for the morning of June 14. Both Mr. Geoghegan, as a representative of the National Fertilizer Assn. and Edwin Pate, Dixie Guano Co., Laurinburg, N.C., chairman of the executive committee of the American Plant Food Council, will address the convention that morning.

A youth panel of representatives of the Future Farmers of America, 4-H Clubs and the National Junior Vegetable Growers Assn. will be heard, with Wm. B. Ward, head, Department of Extension Teaching and

Information, Cornell University, as moderator.

E. L. Peterson, assistant secretary of agriculture, is scheduled to appear on the program for an address to complete the morning's session.

The final day's general session will be under the chairmanship of Mr. Pate. The memorial record will be presented by George W. Gage; and Louis H. Wilson, American Plant Food Council secretary and director of information, will present the annual APFC Soil Builder's Awards.

Harold D. Cooley (D., N.C.), chairman of the House Committee on Agriculture, will address the group and the convention will end with a talk by Sen. John L. McClellan (D., Ark.), chairman of the Senate Committee on Government Operations.

A joint meeting of the NFA's Plant

Food Research Committee and the Agronomy Advisory Committee of the APFC is scheduled to be held June 13. The session, open to all conventioners, is scheduled to begin at 9:30 a.m. in the combined "President Fillmore" and "President Van Buren" rooms of the Greenbrier.

The first part of the meeting will comprise reports of section activities by chairmen of various sections of the NFA research committee. The chairman of the APFC Agronomy Advisory Committee will make the report of that group's work.

A committee representing the two industry groups has been named to consider the consolidation and reorganization of the NFA Plant Food Research Committee and the APFC Agronomy Advisory Committee into a single unit.

The afternoon of each day will be devoted to recreational activities including tennis, golf and horseback riding. Canasta and bridge are being arranged for the ladies present, as well as a putting contest.

## Iowa Fertilizer Firms Merge With New York Company

NEW YORK—The Radco fertilizer companies of southwestern Iowa have been merged with Chemical Enterprises, Inc., New York, according to a joint announcement by Daniel B. Curll, Jr., president of Chemical Enterprises and Carl Reid, Don Allison and Homer Dudley of Radco.

The Iowa companies consist of Radco Fertilizer Co., Inc., Radco Eastern Division and Radco-Creston Division. The move provides Chemical Enterprises with a chain of 10 ammonia stations along the Iowa-Missouri border.

The present management of Radco will remain unchanged. Two additional members have been elected to the Radco board, Daniel B. Curll, Jr., of Chemical Enterprises and Tully V. Talbot, president of Chemco, a subsidiary of Chemical Enterprises serving west central Iowa.

Chemical Enterprises said that "the addition of Radco by Chemical Enterprises subsidiaries provides the company with a greatly strengthened position in western Iowa. Radco is also active in solid fertilizers and adds, thereby, further diversification to Chemical Enterprises' product line in that area."

## D. S. Parham to Head AAC Production

NEW YORK—The American Agricultural Chemical Co. has announced the appointment of D. S. Parham, general superintendent, in charge of fertilizer production.

Mr. Parham, who has been associated with the firm since 1947, was formerly general superintendent of maintenance, and has been active in the company's accident prevention program. He is located at the company's New York office, 50 Church St.

## DEDICATES NEW TEXAS PLANT

ORANGE, TEXAS—Spencer Chemical Co. dedicated its new multimillion dollar polyethylene plant here on May 16. The new plant, dedicated only 21 months after ground breaking ceremonies, is designed to produce 45,000,000 lb. polyethylene resin a year. This material will be used in the manufacture of plastics.

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# INSECT, PLANT DISEASE NOTES

## Grasshoppers and Aphids in New Mexico

STATE COLLEGE, N.M. — Yellow clover aphid continues as the major insect pest of New Mexico. Hay that has had no treatment to control this insect has attained a height of 4 inches. Hay in the same field that has been treated is 14-16 inches high.

Grasshoppers continue to interest ranchers in the state. A new infestation has appeared in the Jornada del Muerto area east of the Rio Grande River in southern New Mexico. Approximately 75 sections are infested with counts running from 1 to 100 per square yard.

The green clover hopper is occurring in large numbers in alfalfa in

Dona Ana County, and hornflies have appeared on cattle at least in the southern half of the state. Counts of 25-50 per cow were obtained in Dona Ana County.

## Georgia Reports Presence Of Armyworms

ATHENS, GA. — Armyworm infestations were found last week as far north as Bartow and Cherokee Counties and a heavy infestation of large worms was found May 9 in Oconee County. Heavy moth flights and lots of eggs in the Cedartown, Rome, Cartersville area indicate the possibility of serious infestations in that area in a short time.

The entire western part of the state south of Cartersville and

roughly west of a line from Athens to Thomasville seems to be infested. There is a very good possibility that counties outside this area are infested or will become infested. The infestation seems to be moving north and northeast. Most infestations to date have been in small grain fields but corn, cotton and pasture grasses have been attacked also.

Rather heavy infestations of hornworms are attacking tobacco in the Tifton area. Aphids (plant lice) also are reported to be infesting tobacco in the Tifton area. These infestations are light at the present time but rather general. Farmers in the tobacco producing area are being warned to look out for these pests and to apply insecticides before seri-

ous damage has been done.—C. Jordan.

## Maryland Reports on Varied Insect Pests

COLLEGE PARK, MD. — Alfalfa weevil damage is severe to unsprayed alfalfa on the Eastern Shore, in southern Maryland, and as far west as Frederick county. Small larvae are still abundant over most of the state. Pea aphid numbers are quite high on the Eastern shore, though they are still in injurious numbers on alfalfa from central to western Maryland.

Farmers were being warned to examine grain, particularly the rank spots of barley and small clover in the barley, for armyworms. Cutworms have caused severe damage to tomatoes and beans planted after sod, in Wicomico County.

Bean leaf beetles and striped and spotted cucumber beetles are doing damage to bean foliage in Wicomico County, and sawflies are infesting pines in Montgomery County. Bean wood leaf miner flies are emerging on the Eastern Shore. Approximately 80% leaf roller eggs have hatched to date. European red mite population heavy in some orchards. Rose and green apple aphids are scarce in orchards even where no dormant sprays have been applied. Plum curculio activity slow due to cool weather.—Theo. L. Bissell and Wallace Harding.

## Maggots Bother Colorado Growers

FT. COLLINS, COLO. — Adult forms of the seed maggot and the sugar beet root maggot have made their appearance in Weld County. These pests, which caused serious reductions in sugar beet stands in some areas of the state last year, have shown up in sufficient numbers in Weld County to cause concern. Dr. L. B. Daniels, chairman of the Colorado Insect Detection Committee and chief entomologist for the Agricultural Experiment Station, reports that the slow germination of sugar beets this spring has afforded an ideal situation for development of the insects.

Adult psyllids made an early appearance in the Fort Collins area being first noted on May 3. Adult army cutworms have shown up in the same general area.

An outbreak, tentatively identified as a bark beetle, has been reported in pinion pine in Fremont County. Several thousand acres are affected with drought conditions adding to the seriousness of the situation.

## Cutworms Described as Serious in Missouri

COLUMBIA, MO.—Cutworm damage to corn continues, and more will probably show up during the week. As pointed out last week, a soil insecticide disked into the ground before planting is the most practical control. Variegated cutworms in alfalfa and clover are still relatively light, although they may build somewhat in numbers within the next few weeks.

We are getting a good scatter of armyworms over the state, but far, they have not been anything as numerous as they were last year. We have seen a few fields in the Bootheel that might warrant spraying at this time, but in other parts of the state don't be in too big a hurry to spray.

The parasitic wasp population is exceptionally high for this time of year. These batches of small white "eggs" that folks have been finding and calling armyworm eggs are actually the cocoons of a wasp which is parasitic on cutworms, army-

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Corn is only one example. Actually, there will be many applications for this nitrogen: as fertilizer for other feed and fiber crops; as a protein source for feed supplements; for industrial uses such as the manufacture of plastics, synthetic fibers, pharmaceuticals, and in petroleum refining.

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foliage has been destroyed, treat with toxaphene, 1½ lb. an acre. If chinch bugs are abundant in the grain, use ½ lb. of dieldrin per acre.—H.B. Petty.

### Destruction Noted In Florida Report

GAINESVILLE, FLA. — Granulate cutworm, averaging one to the plant, recently destroyed completely a young 10-acre crop of corn at Columbia City. The same pest in larval stage, caused heavy damage to 200 acres of peanuts and 30 acres of corn at Lake City. Control measures were taken.

Lesser cornstalk borer in the larval stage, destroyed 80 acres of corn at Trenton, Gilchrist county. The same pest caused severe damage to cowpeas at Live Oak, in Suwannee county.

Acres of lupine, tobacco, velvet—  
(Continued on page 21)

One small armyworm has been found near Bridgeville, but elsewhere in the state, only eggs have been seen. Farmers were urged to notify the Experiment Station immediately if any additional cutworms are found.

### Corn Borer Threatens Again in Illinois

URBANA, ILL. — Although cool weather has retarded pupation, corn borer development is still ten days to two weeks earlier than normal. With moisture now present and with warmer weather, pupation will proceed at a rapid rate. Pupation is about 75% complete in the southern one-third of Illinois, from 15 to 25% in the central section, and from 4 to 15% in the north third of the state. Emergence of moths in the south third of the state ranges from 4 to 12%. A few moths may be flying within the next ten days in central Illinois.

Some thin stands of small grains in eastern and southwestern Illinois are heavily infested with chinch bugs, and damage is becoming apparent. The adults are laying eggs, and the first small red bugs will soon appear. In some of these fields, treatment now with ½ lb. dieldrin per acre may be warranted to avoid possible yield losses.

We are still receiving occasional reports of infestations in rank stands of small grains and grasses in southern Illinois. Small armyworms may appear in central Illinois within the week to ten days. Early fields of corn may be attacked by cutworms. Examine these fields for signs of damage, and if necessary apply 2 lb. toxaphene or ½ lb. dieldrin per acre as a band treatment over the row, at the rate of at least 20 gal. finished spray an acre.

New seedlings of sweet clover are showing damage by the sweet clover weevil. Moon-shaped notches are eaten in the leaf margins. If 50% of the

forms, etc. Apparently, large numbers of cutworms early in the spring together with some early warm weather, have made it possible for these parasites to build up extremely high numbers. They will be an extremely important factor in our armyworm numbers. It is entirely possible that these wasps will materially reduce the number of acres needing spraying.

We have had a lot of questions on what the rains of last week did to grasshoppers. Actually it's still too early for us to tell how much help it might have gotten, but we doubt that it was enough to change our situation very materially. In the meantime, continue to be on the watch for the young hoppers, and spray them out whenever and wherever they are found.—Stirling Kyd & Geo. W. Thomas.

### Cutworms, Armyworms Abundant in Iowa

AMES, IOWA — Armyworm moths are very abundant. In the absence of rain, lodged grain, they may lay their eggs in heavily-fertilized spots of oats, along ditches and elsewhere of heavy growth. Black cutworm moths are also appearing in light traps.

Bean leaf beetle is reported as attacking young soybeans in western Iowa, and grasshoppers are hatching in Boone County, ranging up to 3 per square yard in fencerows.

Terrapin scale on maple in Story and Green Counties is heavy enough to cause severe loss, and bark beetles are severe on elms in northeast Iowa. The larvae work in the cambium layer and can girdle branches quickly.—Harold Gunderson.

### Grasshopper Numbers Increase in Kansas

MANHATTAN, KAN. — Grasshoppers (*Melanoplus* spp.) populations continue to increase in alfalfa fields, pastures, fence rows, and roadsides throughout most of the state of Kansas. Heaviest infestations occur in the eastern counties where counts, in some localized areas, run as high as 60 grasshopper nymphs per square yard.

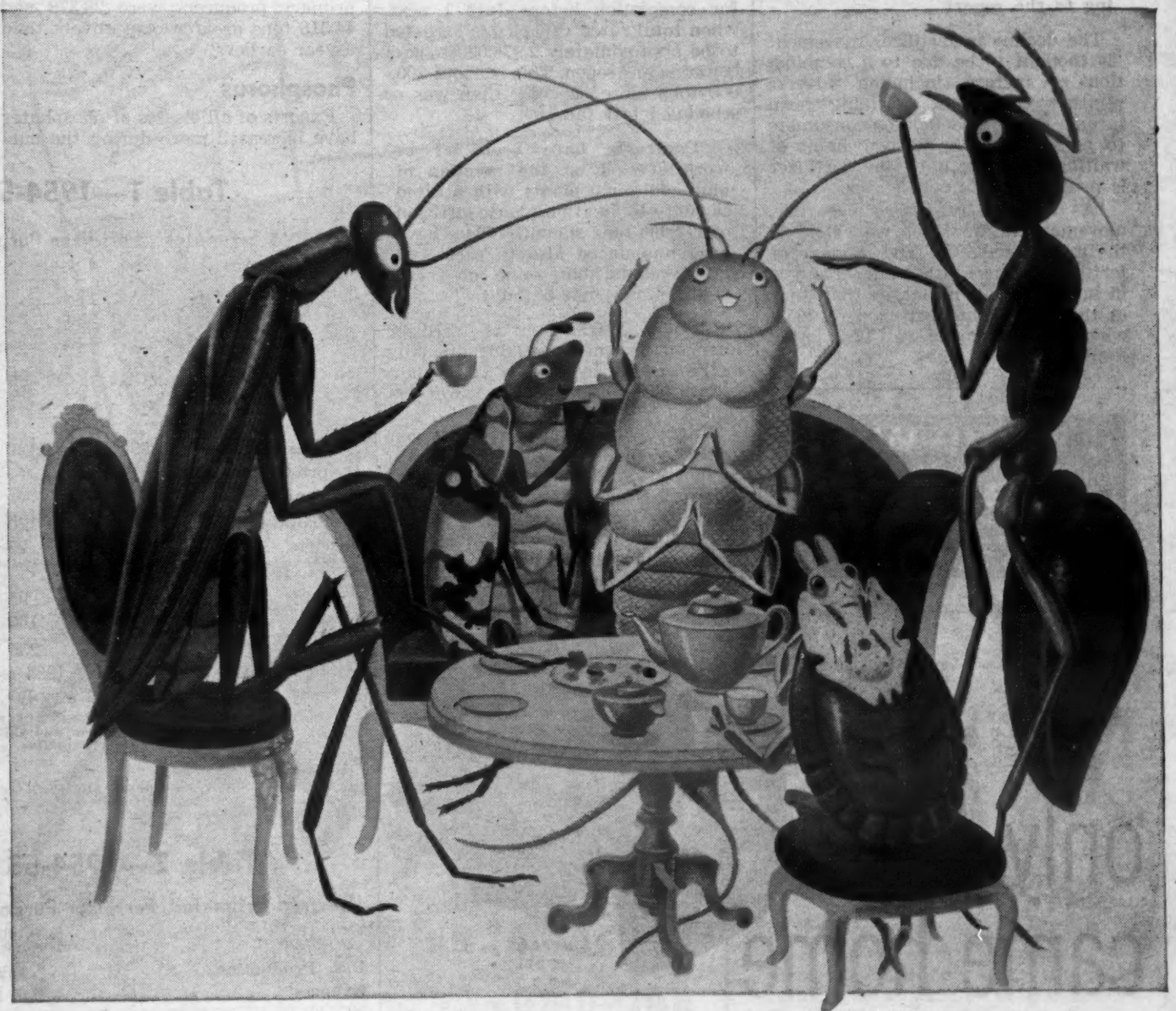
Counts of 15 per square yard were observed in several central Kansas counties and counts as high as 30 per square yard were found in north central areas. None of the early hatch of grasshoppers have reached the adult stage; however, many are fast approaching last instar development.

Pea aphids were found in nearly all alfalfa fields in Washington and Republic counties, north central Kansas. Additional reports of yellow clover aphid infestations were received from counties in south central Kansas. Some of these reports indicated populations of economic importance; however, in most cases, the first hay crop will be cut before insecticidal control practices begin.

Codling moth activity has started for northeast Kansas. The first moths of the 1955 season were taken from May 4 at Wathena, Doniphan County, in northeast Kansas. Considerable plum curculio activity has been noted on both peaches and apples growing in northeast Kansas.—David L. Matthew, Jr.

### Delaware Entomologists Warn Against Infestation

NEWARK, DEL. — From northern New Castle to southern Sussex, Del., cutworms are threatening newly-set tomato plants, according to reports received by entomologists. Growers were advised to "protect plants at once by dusting with 10% toxaphene at 20 lb. an acre or by spraying using wettable powder or emulsifiable concentrate at 2 lb. actual toxaphene an acre."



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## FERTILIZER SITUATION

(Continued from page 1)

placed the 1954-55 phosphorus supply at 2,350,000 tons.

**Potash** — Potash supplies for the current year are estimated at 1,841,000 tons, an increase of 0.6% over the 1953-54 supply of 1,831,000 tons. The September estimate placed current year potash supplies at 1,970,000 tons.

The report also notes that from Jan. 1 to March 15 less fertilizer moved in nearly every state than in the same period of the preceding year, with the decline averaging 15%.

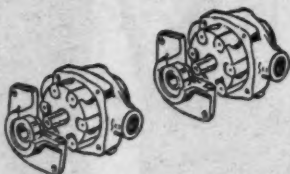
Trade was particularly poor in some of the Central states, where the comparative movement for the entire region was down 30%.

However, as much nitrogen and potash may be moved this season as in previous years, because of the trend toward more concentrated materials and mixtures, according to the report.

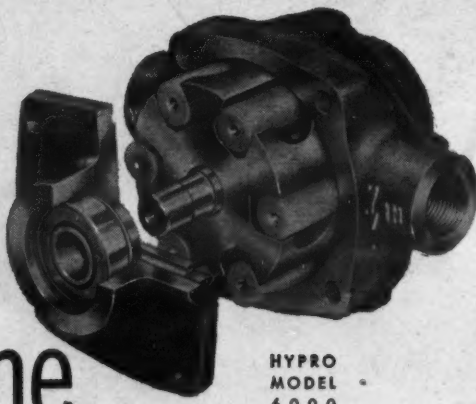
The decline in fertilizer movement "is thought to be due to a combination of factors, including adverse weather conditions, declining farm income and a tendency for consumers to revert to their pre-war habit of waiting to order until the fertilizer is needed," the report states.

"As was the case a year earlier, movement of fertilizer was slow in the autumn of 1954. The tonnage of fertilizer moved into trade channels in late 1954 was no larger than that in the corresponding period in 1953, when the movement was 12% lower than in 1952.

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"Except in the East South Central region, where fall movement exceeded that of 1953 by about 25%, movement was about the same or lower.

"Since Dec. 1, 1954, buyers have been waiting until they needed fertilizer before ordering. This reluctance to buy in advance seems to trace to a belief that fertilizer price changes are more likely to be down than up."

The report had this to say about estimated supply of the primary nutrients:

**Nitrogen**

"On July 1, 1954, capacity to produce synthetic ammonia was equivalent to 2,370,000 tons of nitrogen. Since then ten new plants or additions to existing ones have been completed, and five others are scheduled for completion before July 1 next, when total rated capacity is expected to be approximately 2,976,000 tons of contained nitrogen. This is about 200,000 tons more capacity than was so scheduled last fall.

"Contracts have been let or work started on the erection of nine additional plants with a rated capacity to fix atmospheric nitrogen of 412,000 tons annually. Plans have been announced also to erect yet more plants, but some of these facilities may not be built.

"About 250,000 tons of fertilizer nitrogen becomes available annually in the form of by-product ammonium sulfate, "B" liquor and natural organics.

"The supply of fertilizer nitrogen for the year ending June 30, 1955, is currently estimated to be 2,126,000 short tons, or 5.2% more than the supply for 1953-54 (Table 1).

"Production of ammonium sulfate has been increased substantially, because five companies that did not pro-

duce this material prior to May 1, 1954, now do so. However, imports are lower and exports higher than previously forecast.

"Estimates for production of some of the other synthetic ammonia materials have been changed slightly from the September, 1954, figures, but they are all still substantially above the quantities produced in the 1953-54 season.

"Present estimates for exports in 1954-55 have been increased, partly because commercial exports have been increasing and partly because of the decision of the Foreign Operations Administration to finance the export of 28,000 tons of nitrogen to India, Turkey and Pakistan, largely in the form of sulfate.

"Imports of nitrogen in 1954-55 have in general been lower than previously estimated, especially so in the case of ammonium sulfate.

"On Feb. 28, 1955, stocks of ammonium sulfate and of fertilizer-grade ammonium nitrate in the hands of primary producers were 28,379 and 44,318 tons greater respectively than a year earlier."

**Phosphorus**

Exports of all classes of phosphates have increased more during the cur-

rent year than was expected last fall. The revised estimates are given in Table 2. It appears now that the domestic supply of  $P_2O_5$  will be about 3% less in 1954-55 than in the preceding season.

Since July 1, 1954, available  $P_2O_5$  productive capacity, on the basis of one-shift days, has increased about 90,000 tons. The increase is largely in the form of concentrated superphosphate, but includes some diammonium phosphate and phosphoric acid capacity.

**Potassium**

Revised estimates of potash supplies, based on actual deliveries for the first nine months of the fiscal year, are somewhat lower than those of previous years. Exports are larger than expected.

It is currently estimated that about the same quantity of fertilizer  $K_2O$  will be available for use in 1954-55 as in 1953-54. This is 6% less than was expected last September. (Details are given in Table 3.) Capacity to produce potassium sulfate is being increased currently.

A report based on trade deliveries of nitrogen, phosphates and potash during 1954-55, and a forecast of supplies for 1955-56, is scheduled to be issued after the close of the current season.

Table 1—1954-55 Nitrogen Supply

(Revised Estimates<sup>1</sup>, Fertilizer Purposes, Thousands of Short Tons of N)

Item	Ammonium Nitrate All Grades	Ammonium Sulfate and Ammonium Sulfate Nitrate	Other Solids <sup>2</sup>	Natural Organics	Compound Solutions for ammoniation	Compound Solutions direct application	Ammonia <sup>3</sup> for ammoniation	Ammonia <sup>3</sup> direct application	Totals
<b>U.S. Production</b>									
Synthetic ammonia	389	225	120	...	410	75	110	390	1,719
By-product ammonia	...	177 <sup>4</sup>	...	...	...	...	3	...	180
Natural organics	...	...	...	30	...	...	...	...	30
<b>Total</b>	<b>389</b>	<b>402</b>	<b>120</b>	<b>30</b>	<b>410</b>	<b>75</b>	<b>113</b>	<b>390</b>	<b>1,929</b>
<b>Exports<sup>5</sup></b>	<b>10</b>	<b>70</b>	<b>25</b>	<b>1</b>	<b>15</b>	<b>...</b>	<b>1</b>	<b>...</b>	<b>122</b>
<b>Supply from</b>									
domestic sources	379	332	95	29	395	75	112	390	1,807
<b>Imports<sup>6</sup></b>	<b>105</b>	<b>50</b>	<b>160</b>	<b>4</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>319</b>
<b>Total supply</b>	<b>484</b>	<b>382</b>	<b>255</b>	<b>33</b>	<b>395</b>	<b>75</b>	<b>112</b>	<b>390</b>	<b>2,126</b>
Percent change of September, 1954 estimate	...	...	...	...	...	...	...	...	-3.4
Percent change from 1953-54 supply	...	...	...	...	...	...	...	...	+5.2

<sup>1</sup>Based on actual production during eight months, exports and imports for the first six months, and on rates of production and similar information for the rest of the period.

<sup>2</sup>Includes estimated ammonium phosphates, sodium nitrate, urea, calcium nitrate, cyanamide and nitraphosphates.

<sup>3</sup>Includes aqua ammonia.

<sup>4</sup>Includes ammonium phosphate produced from by-product ammonia.

<sup>5</sup>Includes the estimated nitrogen content of imported and exported mixed fertilizers and ammoniated superphosphate.

Table 2—1954-55 Phosphorus Supply

(Revised Estimates, Fertilizer Purposes, Thousands of Short Tons,  $P_2O_5$ )

Item	Normal superphosphate <sup>1</sup>	Concentrated superphosphate	Other <sup>2</sup>	Totals
<b>U.S. Production</b>	<b>1,600</b>	<b>530</b>	<b>250</b>	<b>2,380</b>
<b>Exports<sup>3</sup></b>	<b>80</b>	<b>60</b>	<b>26</b>	<b>166</b>
<b>Supply from domestic sources</b>	<b>1,520</b>	<b>470</b>	<b>224</b>	<b>2,214</b>
<b>Imports<sup>4</sup></b>	<b>1</b>	<b>1</b>	<b>70</b>	<b>72</b>
<b>Total supply</b>	<b>1,521</b>	<b>471</b>	<b>294</b>	<b>2,286</b>
Percent change of September, 1954, estimate	...	...	...	-2.7
Percent change from 1953-54 supply	...	...	...	-3.3

<sup>1</sup>Includes wet-mixed base goods.

<sup>2</sup>Includes ammonium phosphates, basic slag, fused rock phosphate, liquid phosphoric acid, dicalcium phosphate, high-grade residue, natural organics, and other sources of available  $P_2O_5$ .

<sup>3</sup>Includes the  $P_2O_5$  content of mixed fertilizers and ammoniated superphosphate.

Table 3—1954-55 Potassium Supply

(Revised Estimates<sup>1</sup>, Fertilizer Purposes, Thousands of Short Tons  $K_2O$ )

Item	Potassium chloride	Potassium sulfate and sulfate of potash magnesia	Manure salts	All other materials <sup>2</sup>	Totals
<b>Domestic deliveries</b>	<b>1,640</b>	<b>107</b>	<b>1</b>	<b>35</b>	<b>1,783</b>
<b>Exports<sup>3</sup></b>	<b>51</b>	<b>6</b>	<b>...</b>	<b>4</b>	<b>61</b>
<b>Supply from domestic sources</b>	<b>1,589</b>	<b>101</b>	<b>1</b>	<b>31</b>	<b>1,722</b>
<b>Imports<sup>4</sup></b>	<b>86</b>	<b>28</b>	<b>...</b>	<b>5</b>	<b>119</b>
<b>Total supply</b>	<b>1,675</b>	<b>129</b>	<b>1</b>	<b>36</b>	<b>1,841</b>
Percent change of September, 1954, estimate	...	...	...	...	-6.5
Percent change from 1953-54 supply	...	...	...	...	+0.6

<sup>1</sup>Estimated on the basis of actual exports, imports and deliveries up to April 1, 1955, and present prospects for the rest of the season rather than the quantities above ground at the mines, or obtainable by import.

<sup>2</sup>Includes potassium nitrate, potassium carbonate, potash-lime, nitrate of soda-potash, and natural organics.

<sup>3</sup>Includes the potash content of mixed fertilizers.

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## Charles E. Wilson Named Chairman of W. R. Grace & Co.

NEW YORK—The board of directors of W. R. Grace & Co. has named Charles E. Wilson as chairman of the board. He succeeds William Grace Holloway who announced his retirement at the annual stockholders' meeting of the company. The board named Mr. Holloway honorary chairman.

Mr. Wilson, former president of the General Electric Co., has been serving as chairman of the executive committee of W. R. Grace & Co. with which he became associated in 1952.

All members of the board of directors were reelected at the annual stockholders' meeting. At a special stockholders' meeting which immediately followed the regular meeting, stockholders voted approval of a proposal to authorize the issuance of 700,000 additional shares of common stock. The additional shares were authorized for issuance to persons electing to convert into common stock any of the convertible subordinate debentures which the corporation proposes to issue.

Mr. Wilson joined W. R. Grace & Co. in 1952 as a director and consultant following 51 years of service with the General Electric Co. of which he became president in 1940. During World War II he served as executive vice chairman of the War Production Board with authority over U.S. war production. Soon after the outbreak of the Korean War he resigned as president of General Electric and became the first director of defense mobilization.

His election marks the first time in the 101 years of the history of W. R. Grace & Co. that its chairman has been other than a member of the Grace family.

### Agronomy Field Days Scheduled in Kansas

MANHATTAN, KANSAS—Seven agronomy field days are scheduled for this spring throughout Kansas. R. V. Olson, head of the Kansas State College agronomy department in Manhattan, has announced.

The first of the experiment station field days will be at Mound Valley, May 27. Dates at the other stations are June 7, Manhattan; June 10, Garden City; June 13, Hays; June 14, Tribune, and June 15, Colby.

The complete schedule is May 25, Moberly; May 26, Columbus and St. John; May 27, Hutchinson and Mound Valley; June 6, Canton; June 7, Manhattan; June 9, Dodge City; June 10, Garden City; June 13, Hays; June 14, Tribune and Powhattan; June 15, Colby and Concordia (irrigation); June 16, Mankato and Uhlmann farm (Johnson County), and June 17, Belleville.

### Washington Fertilizer Sales Show Drop

OLYMPIA, WASH. — Fertilizer sales in Washington during the last half of 1954 totaled 58,162 tons, according to a report from the State department of Agriculture. This included 53,390 tons of materials and 4,772 tons of mixed goods.

In addition, sales of agricultural minerals during the period totaled 580 tons and sales of lime materials totaled 4,641 tons.

The department commented that the fertilizer tonnage was decidedly below that of the corresponding period a year earlier, but noted that indications are that the more adequate supply of most fertilizers may have caused a delay of purchasing such materials until just prior to their need.

## University of California Departments to Merge

BERKELEY, CAL. — The department of Plant Nutrition at Berkeley and the department of soils at Berkeley and at Davis will be consolidated into the new Department of Soils and Plant Nutrition by the University of California as of July 1 this year, according to Harry R. Wellman, vice president of agricultural sciences of the University. Headquarters of the new consolidated department will be on the Davis campus. Daniel G. Aldrich, Jr., has been named by Dr. Wellman as chairman of the new department. Dr. Aldrich has been a staff member of the Citrus Experiment Station of the University located at the Riverside campus.

Dr. Aldrich's research has centered on the influences of various fertilizer and soil management practices on the productivity of soils. He has been concerned with the developments and application of diagnostic techniques

for determining the nutrient status of citrus and avocados.

The new department chief is vice chairman of the National Joint Committee of Fertilizer Application, which is composed of representatives of state experiment stations, national scientific societies, and industrial associations. He was recently elected vice-chairman of the soil fertility, fertilizers, and plant nutrition division of the American Society of Agronomy and is secretary-treasurer of the Western Society of Soil Science.

### FIELD DAYS

FORT COLLINS, COL.—Among the field days scheduled this summer by Colorado A & M Experiment Station are these: agronomy, Main Station at Fort Collins, July 8; crops and soils, San Luis Valley Branch Station, Center, July 28; soils, Upper Colorado River Basin, Grand Junction, July 30.

## Potash Companies Award Scholarships

CARLSBAD, N.M. — In order to further scientific study among high school students, two potash companies are awarding scholarships to local students.

The International Minerals and Chemical Corp. awards two scholarships yearly to Eddy County graduates, one going to the son or daughter of an IMCC employee and the other to a student whose parents are not employees of the company. The scholarships are valid in any accredited college in the state.

The Potash Company of America awards a scholarship to a student interested in science and engineering. The winner is also offered summer work by the company to provide him with extra school funds. The PCA scholarship goes to a student who is in the upper one third of his class and who has good character and citizenship rating.

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Smash ads in local newspapers giving the HEPTACHLOR story and giving cotton growers a direct pitch to buy HEPTACHLOR NOW and cut crop losses.

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HEPTACHLOR is field tested and proven effective in the control of those cotton insects which can cost farmers up to 25% of their crop. That's why cotton farmers are enthusiastic in their acclaim for HEPTACHLOR insecticides.

- **EFFECTIVE**—Gives quick and lasting control.
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3-5-40—3% Gamma BHC, 5% DDT, 40% Sulphur (Other formulations available) including Aldrin, Dieldrin, Heptachlor.

### COTTON SPRAYS

3-5-0—0.8 Lb. Gamma BHC, 1.34 lbs. DDT per gallon

4-2-0—4 Lbs. Toxaphene, 2 lbs. DDT per gallon

Endrin, Aldrin, Dieldrin, Heptachlor.

Place your order of cotton poisons now! Be ready to meet the demand.

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### Crops in South Show Promise of Excellent Yield, Reports Say

MEMPHIS, TENN.—Farm conditions improved last week for Mid-South farmers, who now have from 60 to 90% of their cotton planted and much of it is up to a stand. Rice planting is up to schedule, but corn planting is about a week to 10 days behind. Progress is being made on soybean planting. Gardens are in good condition.

The only trouble is coming from insects. Extension officials in Arkansas, Mississippi, Missouri and Tennessee were optimistic in their weekly crop reports, however.

C. A. Vines, associate director of the Arkansas Agricultural Extension Service in Little Rock, reported that 80 to 90% of the cotton and rice crops have been planted and there has been enough rain to bring the crops up in good shape.

In Southeast Missouri, James T. Rollins, assistant county agent at Caruthersville, reported, "We are in pretty good shape. More than 90% of the cotton has been planted and we're making fine progress on soybean planting."

Mr. Rollins warned that grasshoppers are numerous around the river banks as well as army worms and cloverleaf weevils.

In West Tennessee, Judd Brooks, district agent at Jackson, said, "Cotton and corn planting have been progressing rapidly during the past week. More than 60% of the cotton has been planted and is up to a stand in many sections. Corn planting is about 10 days behind schedule."

Planting of the 1955 cotton crop neared completion in Mississippi as farmers worked day and night to get the seed in the ground, Extension Service specialists said.

Local showers in parts of the state helped crops come to a stand, but more rain is needed to bring up newly planted seeds.

Home gardening activity continued to pick up last week as local showers brought new life to suffering vegetable crops.

A. G. Bennett, extension entomologist, advised farmers and home gardeners to be on the lookout for rough-headed cornstalk beetles and chinch bugs as these pests cause damage both to vegetables and field crops.

Weather conditions in Kentucky have been favorable for early tobacco planting. Normally some growers start setting out plants from plant beds to open acres in late May. Some sections of the state have had below normal rainfall, but others are in excellent shape, and there is more ground or subsoil water than for several years of past drouth conditions.

### Regulations Revised For Potash Permits

WASHINGTON—The U.S. Department of Interior has revised regulations for potash permits and leases to encourage marginal production in fringe areas which adjoin base lease holders, it was announced recently. The revision will give operators two options in making payments for the right to mine fringe areas and will permit dating of preference-right leases on the first of the month following approval of applications. The new regulations are to go into effect on June 5.

A third modification provides for positive notification of leases in advance of lease adjustments instead of "whenever feasible" as was the wording formerly provided.



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Section**

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**AT VIRGINIA PLANT**—Shown above is a view of the Bone Dry Fertilizer Co. plant in Richmond, Va., with spreading trucks being loaded with fertilizer. The railroad car at the left contains liquid nitrogen, used in the manufacture of the firm's fertilizer. No liquid fertilizer is sold to the trade.

## Spreading Service Encourages Customers of Virginia Firm To Boost Use of Fertilizer

By **AL. P. NELSON**  
Croplife Special Writer

When a Virginia farmer purchases fertilizer from the Bone Dry Fertilizer Co., 17th & Brown St., Richmond, Va., a regional manufacturer, he can always arrange to have the fertilizer spread on his farm. This is because this company has an arrangement with R. E. B. Blanton, a local automobile dealer to do all its spreading.

Mr. Blanton has a bulk fertilizer spreading business in connection with his dealership, and the two companies work together in seeing that the farmer who buys fertilizer in bulk makes a saving, especially in amounts over 5 and 6 tons, and when he uses considerable poundage per acre.

Through a spreading arrangement like this, the Bone Dry Fertilizer Co., of which B. B. LeCompe is the owner, is able to offer and advertise a factory-to-furrow fertilizer service up to 70 miles of the city of Richmond. The company also has some dealers beyond that area, but handles the bulk of the business inside that 70 mile zone, reports L. D. Hamner of the sales department.

The fertilizing bulk spreading charge varies, depending upon the amount of fertilizer purchased, the distance the purchaser's farm is from Richmond and the number of pounds put on each acre.

For example, if the farmer buys from 5 to 6 tons of fertilizer and uses 1,000 lb. per acre, it costs him nothing to have it spread. But if he uses 750 lb. per acre, the spreading cost is 50¢ per ton. If 500 lb. are used per acre the spreading charge rises to \$1 per ton.

The Bone Dry Fertilizer Co. has a chart which gives its rates in full on the spreading service. The chart gives the mileage rates and lists the equivalent cost of spreading per acre, depending on whether the farmer uses 1,000 lb., 750 lb. or 500 lb. per acre. Since there are many classifications under the system, the farmer finds the chart useful in computing what his fertilizer will cost him when spread. Charts like this are available for customers who want them.

As Mr. Hamner reports, "The farmer who studies the chart can

see that it will pay him to use 1,000 lb. fertilizer per acre when the need arises, and he can thus save the spreading charge. By using more fertilizer he not only gets a greater yield, but gets his fertilizer cheaper because there is no spreading charge if he lives within 20 miles of Richmond."

Using a chart like this, too, means that one farmer living farther out into the 70 mile zone cannot expect to have his fertilizer spread as cheaply as someone living closer to the source of supply. In other words a chart like this, properly publicized, helps sell more fertilizer and eliminates a lot of explanations.

Some types of fertilizer used in the area include 2-12-12 and 5-10-10 on corn, reports Mr. Hamner; 3-9-6 and 2-8-10 on tobacco; 2-12-12, 0-14-14 and 1-10-20 on soybeans, while on peninsular peanuts 0-14-14 is widely used. Virginia has suffered greatly from drought the past year, but the wise use of fertilizer in many sections has helped bring fair yields in many cases where there was below normal moisture, many experts say.

The Bone Dry Fertilizer firm finds that direct mail advertising gets very good results in this area. For example, the firm quite often sends out reprints of leading farm

(Continued on page 13)



**SHOP TALK**

**OVER THE COUNTER**

**FOR THE DEALER**

By **EMMET J. HOFFMAN**  
Croplife Merchandising Editor

A new neighbor had just moved in and, after having straightened out the furniture, the head of the household went out in his yard to have a look around at his new surroundings. The fellow next door was out working on his lawn.

"Say," said the newcomer, "how are the neighbors around here?"

The fellow next door, experienced in the technique of acquiring new neighbors, parried the question for a few seconds, then came back with his own question:

"How were the neighbors where you used to live?"

"Lousy," came the immediate, emphatic retort.

"Well, you'll find them lousy around here, too," came the equally emphatic answer.

This story was told by a retailer—a very successful one and a leader in his industry—to emphasize one of the attributes which he said a profit-making dealer must have. That attribute is a proper attitude.

In addition to attitudes, this retailer added initiative and vision as the other attributes of success.

How you get along in your neighborhood as a dealer is mainly a matter of attitude. Attitude means turning misfortune into fortune, it means enthusiasm and a desire to get along and serve the customer, this retailer explained.

Use initiative in making competition, not meeting it. He pointed out that a retailer can have either price competition or creative competition. Early in his career, this successful dealer said, he made the near disastrous mistake of letting his competitor set his prices for him. Instead, he now figures his costs and margin of profit and then sets his prices accordingly. It is a much sounder practice, he emphasized.

Show your customers that you are a dealer with vision. Impress your customers by acting and being progressive. Go forward, and look forward. When was the last time you touched a paint brush to your store front or your window display area? Can a prospect walk past your store, be attracted by what he sees in the window and think to himself, "Well, certainly this dealer appears to be progressive and 'right on the ball'."



By **RAYMOND ROSSON**  
County Agent, Washington County, Tenn.

One of our organized Community Clubs asked me to give them 10 "Soil Commandments." Here they are:

1. I am the soil, thy home, thou shalt have no other business before me.
2. Thou shalt not make the grave mistake and bow down thyself, to neglect me.
3. Thou shalt not work the soil, thy home, in vain.
4. Remember the six days to keep them busy.
5. Honor thy heritage and thy calling; so that thy days may be profitable.
6. Thou shalt not kill thy proven sires.
7. Thou shalt not commit adulteration of seeds.
8. Thou shalt not steal my plant food.
9. Thou shalt not bear false hearsay.
10. Thou shalt not covet thy neighbor's better land, but make thine own fertile.

## Ten Steps to Better Customer Relations

By **ERNEST W. FAIR**

"You have to understand them. When a customer has a complaint or grievance it's almost impossible to arrive at a good conclusion without first learning to understand the reasons for the complaint, why it is made and what lies behind the grievance."

Those are the sentiments of more than two score dealers contacted on the question of how the dealer can better handle the problem which is becoming more and more important in these times.

Here are 10 methods of handling the problem. They were mentioned by almost every dealer as having been successful in his own case. They are applicable to any size store.

1. "Don't settle the grievances immediately," is the advice of most dealers. Interview the customer who has a complaint or grievance and hear his or her story with a friendly discussion of the problem. But don't attempt to settle it then and there.

2. "Explain what you do," is one dealer's way of presenting another important point. Often a customer complaint can be completely smoothed over when we explain the whys and wherefores behind the occurrence or the rule involved.

3. "Remember that the customer is usually right in his viewpoint," is another good suggestion to follow. Most of us believe honestly and sincerely that our viewpoint is the right one.

4. "Don't quibble," is one dealer's advice and others add such suggestions as not procrastinating or giving foolish reasons for one's settlement of the problem or attempting to "josh" a customer out of a grievance.

5. Be quick to acknowledge an honest error as soon as it has been discovered. This offers a demonstration of one's own honesty and fair dealing. It inflates the ego of the customer. Trying to cover up an honest error will only make matters worse; everyone realizes that no one is perfect and that all of us sometimes make mistakes.

6. Imaginary troubles on the part of customers are encountered frequently. Solving them calls for under-

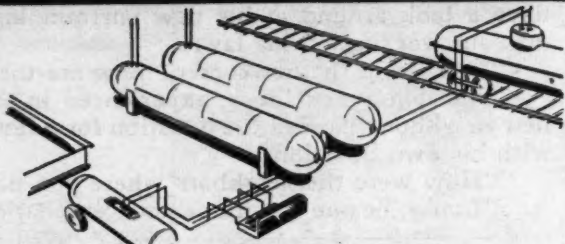
(Continued on page 11)



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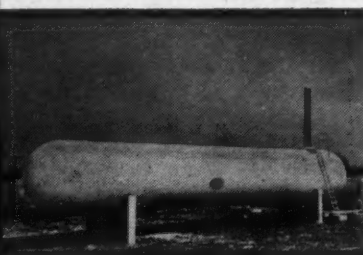
**NOW . . .** get the extra storage you need and save money, too. Do-it-yourself with a Beaird packaged bulk storage plant shipped complete with every pump, valve, fitting and accessory you need to put it into operation. You buy nothing extra! And three to five-year financing may be arranged.

Preassembly at Beaird and easy-to-follow building plans make it easy for you to install the complete packaged plant with minimum field work and outside labor. Much of the installation may be made by your own employees. As further assurance of proper assembly, a Beaird field engineer supervises the entire installation, including unloading, placing tank on foundation and piping as well as unloading the first car of ammonia for you and demonstrating the plant operation to your employees.

Before you build your bulk plant, see how much you may save by installing your own Beaird packaged storage station. Write today or ask your Beaird representative for a quotation on your requirements.

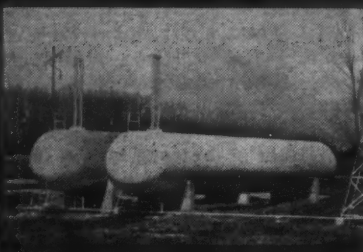
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30,000-gallon "do-it-yourself" bulk storage station installed for plant or field storage. Beaird do-it-yourself packaged bulk plants are individually designed with one or more tanks to fit your requirements, engineered to meet all state and code regulations.



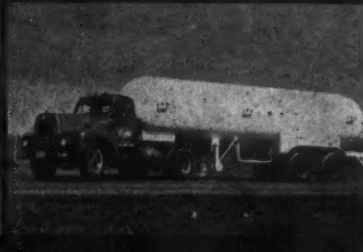
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Packaged installation of 30,000-gallon tanks. Other sizes: 2,000 to 30,000-gallon capacity. Identical bulk plants may be ordered on a "turn-key" job basis, with Beaird field engineers handling every detail.



## SINGLE-BARREL TRANSPORT

Bigger payloads for dealers—new Beaird 6,165-gallon trailer transports for NH<sub>3</sub>. Designed to eliminate dead weight, transports deliver bonus payloads up to 1,000 gallons.

THE J. B. BEAIRD  
COMPANY, INC.

Shreveport, Louisiana

Stockton, California

BEAIRD

What's Been  
Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on rotational circulation up to date on industry happenings.

Construction of the first nitrogen products plant in Indiana began May 9 by Calumet Nitrogen Products Co. near Hammond. It is reported to be the largest plant in the U.S. to make anhydrous from refinery by-product hydrogen. . . . An expanded market for grain protectants was indicated when the Food and Drug Administration and USDA began to promote higher sanitation standards for the nation's cereal supplies.

A contract for construction of its second contact acid plant at Searsport, Maine, was let by Northern Chemical Industries, according to J. E. Totman, president. The plant will have a rated capacity of 100 tons a day of 100% sulfuric acid. Combined with present facilities, NCI will have a total rated daily capacity of 170 tons a day. Tank storage will be increased to 4,000 tons.

C. J. Watts, Jr., joined the Agricultural Chemicals sales department of Commercial Solvents Corp., New York. He was formerly with Davison Chemical Co. . . . J. C. Crissey, manager of the Soil Building Division of GLF Exchange, Inc., Ithaca, N.Y., was honored at a banquet recently in recognition of his 30 years of service. . . . Mississippi River Chemical Co., St. Louis, named Richard G. Powell as technical service representative.

Ample supplies of pesticides for the 1955 season were seen in the USDA's report on the "Pesticide Situation." Inventories of both technical materials and the chemical content of formulations were down about 9% at the end of September, compared to 1953. Stocks of technical grades of pesticides in hands of manufacturers and mixers were down about 16%.

A survey by the National Fertilizer Association indicated that the Mountain and Pacific Northwest states were enjoying fertilizer sales about 3% over those of last year. Tonnage was expected to be up by as much as 5% for the area when the fertilizer year ends. . . . Vorhes Chemical Corp., Charles City, Iowa, announced that construction has begun on its \$200,000 dry mixing fertilizer plant.

An increase of 100% in use of pesticides in the Carolinas and Virginia is possible, Dr. Clyde F. Smith, North Carolina State College, said at the opening meeting of the Carolinas-Virginia Pesticide Formulators Assn. at Raleigh. The two-day meeting marked the organization of the new industry group.

The Federal Food and Drug Administration took steps to eliminate duplication of fees charged to applicants for tolerance determinations on pesticides. Where supporting data for a product is similar for use in several crops, the original fee will cover. . . . American Potash Institute, Washington, D.C., announced that potash deliveries for 1954 were up 9% over 1953. A total of 1,834,810 tons K<sub>2</sub>O content was delivered last year, amounting to 171,658 tons over the previous year's total.

Both output and export of pesticides were up in 1954, the USDA announced. BHC, DDT, 2,4-D were up in production, but 2,4,5-T declined. . . . The USDA also reported that farmers spent approximately \$241 million for pest control, mostly for control of insects and plant diseases.

Spencer Chemical Co. announced a \$1.5 million expansion in its nitric acid and ammoniating facilities at Vicksburg, Miss. The expansion will be completed in the spring of 1956. . . . Stauffer Chemical Co. announced that the new million dollar addition to its fertilizer plant at Vernon, Cal. will be turning out new products about the end of July, 1955.

Sohio Chemical Co., newly-formed subsidiary, will market the products of the \$17 million petrochemical plant of the Standard Oil Co. now under construction at Lima, Ohio. The plant is expected to be completed about Jan. 1. . . . Survival of boll weevil was reported to be higher than average in Louisiana, giving rise to the possibility of infestation this summer. However, weather during June and July will determine actual conditions.

Prices on paradichlorobenzene and monochlorobenzene were reduced April 21, due to lack of demand at what is usually the peak buying season. Fertilizer sales in northern states was running from 10 to 15% behind those of the corresponding period last year, according to a survey made by the National Fertilizer Association in April. Prospects for improvement in the situation were reported as bright, however.

Brea Chemicals, Inc., completed a 210,000 gal. aqua ammonium phosphate plant at Fresno, Calif. The firm now produces both phosphate and nitrogen in solution form. . . . Curry Chemical Co. announced plans for construction of a 40-ton-a-day liquid mixed fertilizer plant near its present facilities at Scotts bluff, Neb.

USDA announced that it is studying materials that inhibit development of insects as possible control measures. Piperonyl butoxide showed promise in this area, USDA said. . . . Aerial spraying of some 800,000 acres in Massachusetts for gypsy moth control was expected to get under way around April 25. . . . Aron L. Mehring was named by USDA to head fertilizer work of Commodity Stabilization Services. He will direct continuing study on supply and demand conditions.

Davison Chemical Co., Division of W. R. Grace & Co., named F. Clayton Nicholson as vice president of the Division in charge of chemical operations. Mr. Nicholson succeeded W. B. McCloskey who became vice president of the parent company. . . . Olin Mathieson Chemical Corp. named managers for Agricultural Chemicals Division: John H. Nason, general manager of the eastern fertilizer division, at Baltimore; Joseph Mullen, Jr., general manager of western fertilizer division, Little Rock, Ark.

Corn borer damage in 1954 amounted to about 192 million bushels, worth more than \$261 million, according to the U. S. Department of Agriculture.

The first annual meeting of the National Nitrogen Solutions Dealers Assn. was held in Omaha March 14-15. Wayne Johnson, Shenandoah, Iowa, was named president. . . . Phillips Chemical Co. acquired quarter interest in Farmers Corporation, a new firm established March 12 by the National Farmers Union and Kee-McGee Oil Industries.



## Firm Offers Many Services to Vegetable Growers

A diversity of services is offered to vegetable growers in the Sanford, Fla. area by the Chase Co., a firm which has been manufacturing fertilizer for 45 years. This company not only makes the Chaco brand of fertilizers which are sold direct to citrus and vegetable growers in this area, but it also has its own ice plant and vegetable packing company.

Thus the large vegetable grower is able to secure fertilizer from the Chase Co. and when it's time to pack and ship the vegetables this can be done for him by the same firm. The principal vegetables which are thus packed by the Chase plant include celery, radishes, cabbage and sweet corn. Randall Chase is president of the firm, and Wm. A. Leffler is chairman of the board.

Mr. Leffler reports that his firm sells mostly a 5-5-8 analysis fertilizer for celery land, a 6-4-6 for citrus and a 5-10-10 for pastures. Organics are used quite liberally in vegetable and citrus fertilizers in many sections of Florida, with manganese, copper, zinc, iron and boron highly important in making organic-poor Florida soils produce bumper crops. Much citrus fertilizer contains 5 to 6 units of soluble magnesium, he states. Usually vegetables take a higher organic content for bumper crops than does citrus.

However, Mr. Leffler points out that Florida soils differ considerably from sand to muck, and this is one reason, along with diversified crops, why so many fertilizers used in this state are tailor made for certain localities in some instances.

Most of the fertilizers which the Chase Co. manufactures and sells are placed within a five to six county area. Company salesmen visit large vegetable and citrus growers in the area, talk over their problems with them and get the right fertilizer to these customers in the right amounts. These large growers, for example, buy many tons of fertilizer at one time and want delivery at specified dates, so that farm crews can apply it without delay.

"There is a great deal of interest in dairying and cattle raising in many sections of Florida," explains Mr. Leffler, "and this means that cattlemen need more and better pastures to help with a low cost feeding program. By using more fertilizer, the cattleman gets better and cheaper grass which helps him immeasurably."

Mr. Leffler reports that there are custom bulk spreaders in the area who handle spreading for pastures at rates of between 50¢ and \$1.25 an acre, depending upon the number of pounds used to the acre.

## South Carolina Tonnage

CLEMSON — Fertilizer shipments in South Carolina during April totaled 156,388 tons, according to the State Department of Fertilizer Inspection and Analysis. This included 136,786 tons of mixed fertilizer. The tonnage for the first 10 months of the July 1-June 30 fiscal year is 810,828, a decrease from 882,833 tons during the corresponding period a year earlier.

## ROACH PROGRAM

CLEMSON, S.C.—A state-wide intensive roach control program is being conducted in South Carolina during May and June. The program is being sponsored by the South Carolina State Agricultural Committee and state and county councils of farm women in cooperation with the Clemson Extension Service and other cooperating agencies.

## TEN STEPS

(Continued from page 9)

standing that though they are in fact imaginary they are very real and important to that particular individual.

7. "You'll always find it a lot easier to settle such problems if you always keep close contact with your customers," one dealer comments. Satisfying and adjusting complaints and grievances is made more difficult when we have lost touch with the customer's viewpoint. When we have an understanding of ourselves from the other side of the fence we will find adjustment of differences a much easier matter.

8. A person convinced against his will is still unconvinced. The speediest way to secure a satisfactory solution to anyone's complaint is to try to get them to convince themselves. Using high pressure arguments merely convinces a person at that particular moment.

9. "Be careful of establishing a precedent in arriving at a solution," is advice often heard. It is one of the reasons for the first suggestion that a period of time be allowed to elapse before presenting one's solution. It is wise to settle any grievance if we can, but not when this will create a precedent that may be harmful in the future.

10: A sense of humor is always important in handling any complaint or grievance. The average customer presents his or her complaint with a chip on their shoulders and a belligerent frame of mind. We have to change this before a reasonable solution can be worked out. Nothing will do it better than the use of a good sense of humor coupled with understanding.

There is always something different about every complaint or grievance; the foregoing solutions are designed to handle the basic background to all complaints but each needs additional treatment of its own.

Every problem needs individual analysis and treatment for solution but basing such individual treatment on the procedures outlined above will make even the most difficult problem an easier one to handle.

Difficult times create complaints and grievances among customers; even the best store will have them. Making the solution to each problem the simplest and most straightforward has always been wise procedure to follow.

## Solution Seen For Soybean Failure in Texas

DALLAS, TEXAS — The 20-year failure of soybeans in Texas may be near a solution, according to Dr. C. L. Lundell, director of the Renner Foundation. Up until recent years soybeans produced only about half as much in Texas as in the northern states, because of the hot, dry climate.

Now the Renner Foundation, after several years work, has developed new strains which will produce almost equally as much as soybeans in the North. Last year one strain produced 19.02 bu. to the acre, which compares favorably with the national annual yield of 19.9 bu.

The best results for the Southwest, says Dr. E. H. Collister, agronomist with the Foundation, will be achieved by late plantings. He says that by planting in June, the soybean plants will escape the scorching, dry heat of the summer and mature in the cooler months of the autumn.

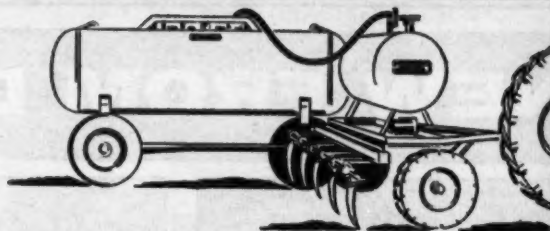
## LOW STRAWBERRY ACREAGE

LITTLE ROCK — The acreage of strawberries for fruit production this year in Arkansas is the lowest since 1900. Bad weather in the last three years has lowered the acreage from 19,700 in 1951 to 3,800 this year.

## Sure way to BIGGER PROFITS

IN **NH<sub>3</sub>** ANHYDROUS AMMONIA

with storage and handling equipment built by BEAIRD



TODAY'S doubled demands for Anhydrous Ammonia mean doubled profits for you if you have adequate storage and handling equipment. Beaird helps you meet these equipment requirements with the first complete line of equipment for every plant and field need. Now, through Beaird you can consolidate your purchasing, financing and service responsibility at a single source. You also benefit from the latest design improvements that make NH<sub>3</sub> easier, safer to use, and from Beaird's experienced engineering and planning assistance to help you with your storage requirements — all without extra cost.

More and more dealers are relying on Beaird equipment for the extra storage facilities needed to meet today's doubled production and demand. At the plant or on the farm, Beaird safety-built storage and handling equipment is your sure way to bigger profits in anhydrous ammonia. *Before you buy, ask your Beaird representative about a planned storage and field equipment program designed to fit your requirements.*



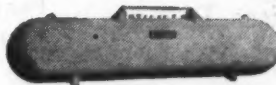
### FOR APPLICATION

Beaird applicator tanks — 110, 150, and 200-gallon sizes. Available unfitted or fitted with highest-quality fittings. Gleaming white "Weather-Weld" enamel finish.



### FIELD STORAGE

Beaird packaged storage station available for do-it-yourself installation with all necessary pipe and fittings, pump and safety controls. Shown: 6,000-gallon; other sizes from 2,000 to 30,000 gallons.



### MOBILE FIELD SUPPLY

Beaird truck and trailer tanks, 500 and 1,000-gallon sizes, equipped with internal baffles to meet all state regulations. Dual fill valve couplings cut filling time in half. Long lasting gloss white "Weather-Weld" enamel finish.

**THE J. B. BEAIRD COMPANY, INC.**

Shreveport, Louisiana

Stockton, California

**BEAIRD**

BEAIRD



# Better Selling

Richer Sales Fields for Dealers

CROPLIFE, May 23, 1955



A spring downpour had flooded the fields and parking yard, so Oscar and Pat were sitting out the sudden storm in their office, each busying himself with his own special interests. Oscar Schoenfeld, the frugal, portly and almost bald partner, was figur-

ing discounts on bills about to be paid.

His desk, neat as a pin, reflected a man who was methodical. Everything was in place—six sharpened pencils, glass bowl half filled with retrieved paper clips, small paper box full of

rubber bands, also rescued from the office baskets, and a pad of stapled scratch paper, consisting of blank back sheets of discarded office correspondence and bulletins. Waste was a skinny skeleton on the food it got around Oscar's desk.

Across from Oscar, and facing him—for the desks were back to back, sat Pat McGillicuddy, looking through one of the magazines which heaped his desk. Pat was really enjoying himself. When he read a magazine, even a farm periodical, he thumbed leisurely through it, scanning the ads, the articles, the cartoons, the jokes. His bright blue eyes would light up now and then as a business idea or a good joke or cartoon appealed to him.

All of this was decidedly irritating to frugal Oscar, who could see no earthly profit in wasting time like this during business hours. He felt like chewing on his pencil, but didn't contenting himself with sending sarcastic glances toward his partner of which the latter was entirely unaware.

"Ho, ho!" laughed Pat suddenly. "I've gotta clip this cartoon and show it to Pete Mattox the next time he comes in. He'll really appreciate this."

Oscar looked at a list on his desk. "Huh. It would be better if you would ask him to pay that overdue bill of \$147.80. That is no laughing matter."

Pat looked up a little astonished. "You really think money is so important," he taunted.

"You just try paying bills without it and see how far you'll get," Oscar snapped. "Or paying subscription bills to those—those magazines you never read all the way through."

Pat sighed. "Why, this is a fine thing to be doing when it's raining. Oscar, I'm looking for money making ideas."

"Bah," said Oscar coldly. "Better you should look for money where it really is—in the pockets of delinquent customers."

Pat had learned from experience that it did not pay to try to convert Oscar to any new ideas on the manner of making or saving money so he went back to reading the magazines. Tillie, the plumpish bookkeeper, who was inclined toward ulcers, suspected a quarrel was brewing between the partners. She reached for an ulcer powder and chewed on it hopefully.

Suddenly Pat slammed his fist on his desk. "Gosh, Oscar, I think I've found a good idea. And just by reading an ad, too."

Oscar paled. "You—you're not going to buy something again, are you? The bank account—"

"No, no," interrupted Pat enthusiastically. "But this ad points out that when you apply liquid fertilizer with insecticide sprays, you not only give vegetables and fruit trees added nourishment, but you save application labor. That gives me an angle for a display."

"An angle!" said the astonished Oscar. "What's an angle good for?"

"We'll rig up a display," Pat said animatedly, "and we'll put up a sign which will tell the farmers—D. THREE VITAL THINGS IN ONE OPERATION. 1. Kill insects. 2. Fertilize fruit trees and vegetables, including sweet corn. 3. Save expensive farm labor."

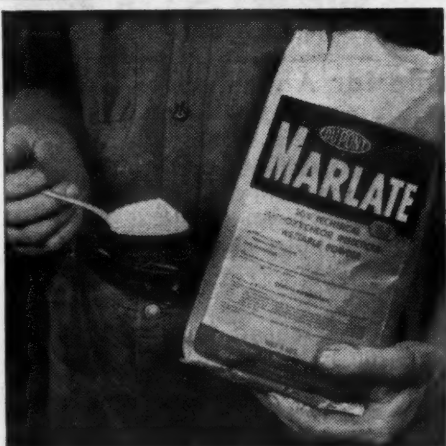
"Don't our customers know that?" asked Oscar. "We do."

"Maybe some do, but others don't. Anyway it's a selling angle for us. Anytime we can show the farmer how he can save money by buying and using our products, then we've won."

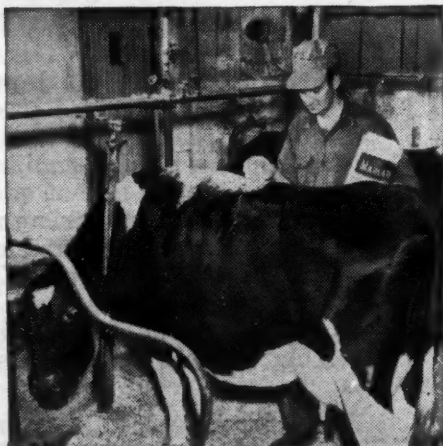
Pat went on to tell Oscar that the display he had in mind would center around insecticides, would have liquid fertilizer products shown, too, and also some power sprayers and hand sprayers.

"If the farmer realizes he can save money by doing the spraying and fertilizing job our way, we'll save

## NEW FROM DU PONT...



Now, hornfly control on cattle can be fast, simple, and cheap! Heaping tablespoonful of "Marlate" does the job for two to three weeks.



Sprinkle "Marlate" over neck and back of animal and rub it in gently against hair. No mixing, no sprayer needed to kill hornflies this way!



"Marlate" is especially suited for the new hand-dusting method because of its low toxic hazard to humans and livestock.

# This simple method of killing hornflies offers you new profits this season!

### Cash in on this new way for dairymen to kill hornflies...

Get the facts on this big profit opportunity from your Du Pont distributor. If you are not now carrying Du Pont products, use the coupon below. "Marlate" 50 comes in convenient 4-lb. bags, 12 to a case. Also, sell "Marlate" 50 for spraying barns and premises. Be sure to stock a good supply before the fly season starts.

## MARLATE<sup>®</sup> 50

Methoxychlor Insecticide



BETTER THINGS FOR BETTER LIVING... THROUGH CHEMISTRY

### Du Pont advertisements in these farm papers will tell your dairymen about this simple new way to kill hornflies...

Ohio Farmer	Wisconsin Agriculturist
The Farmer	Western Dairy Journal
Prairie Farmer	American Agriculturist
Michigan Farmer	Dairy Breed Publications
Penna. Farmer	New England Homestead
Hoard's Dairyman	Kansas City Star Farmer
	Progressive Farmer

E. I. du Pont de Nemours & Co. (Inc.)  
Grasselli Chemicals Department  
Room 4032—Du Pont, Wilmington, Del.

Please advise me of the nearest source of supply for "Marlate" 50.

Name \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

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## Better Selling

Richer Sales Fields for Dealers

### VIRGINIA FIRM

(Continued from page 9)

articles, with the company's name stamped on the back.

One such article reprint dealt with the differences between dairying in southern states and in Minnesota and Wisconsin. The article pointed out that while southern dairy farmers get much more per 100 lb. of milk than northern dairy farmers, the northerners get more annual milk poundage per cow due to better breeding, feeding and care.

The article tends to point out the fact that southern dairymen have an opportunity to make dairying much more profitable, especially since fertilized pastures and other forage raising means are available to them.

"When the farmer gets a special reprint like this he sometimes pays more attention to it and reads it more thoroughly than when it appears in a magazine," reports Mr. Hamner. "We like to do this type of educational work which helps the farmer to find better paying markets through better methods."

The company also does good will advertising through the giving of calendars and other items to the trade. Some newspaper and telephone advertising is also done.

The fertilizer firm takes advantage of the state agriculture department's many farm meetings in the area. Representatives attend such meetings regularly, participate in the discussions, and thus are able to contact many farmers and also learn at first hand some of the current problems of local agriculture.

### \$10 FOR \$1

JACKSON, MISS. — A money-making plan was offered Mississippi farmers recently when A. G. Bennett, state extension entomologist, explained the need for spraying insects. Mr. Bennett told farmers \$1 worth of insecticide used when needed will return \$10 to farmers.

### SOIL FUMIGATION

CLEMSON, S.C.—The practice of fumigating soil that is to be set to tobacco is on the increase in Chesterfield County, S.C. Just 3 years ago there was not a field in the county fumigated. This year at least one-third of the tobacco producers are fumigating their soils.

## Get Better Ammoniation WITH NATURAL-TEXTURE V-C Triple Superphosphate



**Quality** is the watchword at the big, new V-C Triple Superphosphate plant at Nichols, Florida. Here, V-C Triple Superphosphate is produced so that it retains its natural, desirable texture—a big help to you in simpler, faster ammoniation in your plant. This superior texture also helps you cut down on recycling at

your mixing machines. V-C Natural-Texture Triple Superphosphate is backed by many years of experience and production know-how. V-C pioneered in the production of concentrated superphosphate as far back as 1907, when it put into operation, at Charleston, S.C., the first large-scale plant in the United States.

**Depend on V-C** to supply your Triple Superphosphate needs. Newly-expanded facilities and years of skill in production now combine to bring you Natural-Texture Triple Superphosphate designed to fit your production programs. Write or call now!

**VIRGINIA-CAROLINA CHEMICAL CORPORATION**

401 East Main Street, Richmond 8, Virginia



more liquid fertilizer for spraying along with insecticide and he'll save farm labor," Pat said. "It's a good deal for both of us. If we didn't play up this angle we wouldn't sell so many of those fertilizing sprays."

"You won't have to advertise this idea, will you?" Oscar asked hopefully. "All the farmers who come in here can see it. Besides, our advertising budget looks mighty sick."

"Of course, we'll have to advertise," Pat said. "The farmers who come here regularly will see the display—yes. But we also want to reach all the other farmers in our trade area with the message—so we will have to advertise."

"Couldn't we try it this once, without advertising?" Oscar asked.

Pat shook his head. "Oscar, any idea worth promoting at all is worth advertising. The initial cost of a display idea is just so much and to give it advertising in newspapers costs only a cent or so extra per person reached. You have to play for bigger returns when you advertise."

"Yah, we should play for more money collected fast, too," snapped Oscar.

"You remember that seed treating display we ran a month ago, and the advertising we did on it?"

Pat said. "Lots of farmers who never thought of treating their seed for insect control bought some just because we brought the matter to their attention. And we sold lots of extra fertilizer at the time."

"Some of which we ain't collected for yet," reminded Oscar.

"But we will and we've chalked up extra volume on that promotion, just as we will on this one."

Oscar stared at the many detailed budget sheets on his desk, filled with neat, exact figures. "These—these ideas of yours throw our—our budgets all to—heck!" he said vehemently. "I'm lucky if I can get my investment back in this—this crazy business!"

And with that Oscar got up and walked swiftly into the warehouse where Pat could hear him mumbling and swearing in German at the huge stacks of unoffending fertilizer bags piled high along the wall.

### Insect Problems in Stored Rice Increasing

FAYETTEVILLE, ARK. — Insect problems in stored rice are increasing rapidly with the increase in the amount of rice held in storage, according to L. O. Warren and H. P. Boles, assistant entomologists at the University of Arkansas Agricultural Experiment Station.

They point out that almost 5 million hundredweight of rice were placed under government loan in Arkansas in 1954.

Insects were found in 43 out of 60 grain bins sampled last fall. Populations were generally light. Most of the insects found were the saw-toothed grain beetle and bran bugs.

Insect numbers built up in bins during the winter, as shown by examinations made in January and February. Even though air temperature was low, grain temperatures were usually high enough for insect activity unless the grain was cooled by aeration.

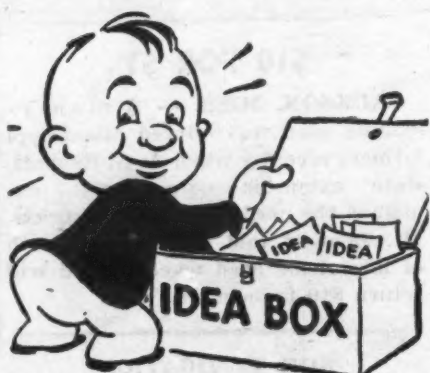
### PASTURE CONDITIONS

STATE COLLEGE, N.M.—The condition of New Mexico pastures on May 1 was reported at 52% of normal which is slightly above the 46% reported last year, but below the 70% reported for the 10-year (1944-53) average.



# Better Selling

Richer Sales Fields for Dealers



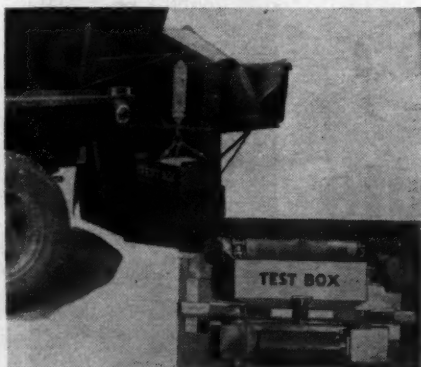
## What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

### No. 6249—Metering Device

The Highway Equipment Company, Inc., is producing a new metering device for commercial fertilizer spreaders. The unit fits all late model "New Leader" agricultural spreaders made by the company. The device



measures the amount of fertilizer being fed to the twin distributor discs and provides a simple method of obtaining the correct feedgate setting. It is said to be easy to install and accurately meters from 100 lb. per acre on up. Full information and prices may be had—at no obligation—

by checking No. 6249 on the coupon and mailing it to this newspaper.

### No. 6253—Herbicide

Available in limited quantities is the new herbicide, Amino Triazole, produced by the American Cyanamid Company's agricultural chemicals division. A leaflet suggesting its use on Canada thistle, quack grass and other weeds is available. The company states that it has been granted acceptance of an "experimental label" which permits the firm to sell small quantities for testing purposes. To secure more complete details about securing a quantity of this herbicide, cost and available literature, check No. 6253 on the coupon and mail it to this newspaper.

### No. 5182—Grain Protectant

A new liquid grain protectant, claimed to be the first product of its kind for the prolonged protection of stored grain from insects, has been introduced by the Douglas Chemical Co. Called Tetrakote, the protectant is being placed on the market after several years of cooperative research

with the entomology department of Kansas State College. Tetrakote is applied to the grain as it is harvested and is moved to farm storage. It is a residual spray which is said to give protection to the grain for periods up to 12 months at a low cost. The formula consists of ethylene tetrachloride, petroleum distillate, piperonyl butoxide and pyrethrins. Tetrakote is being marketed to farmers and grain men through feed stores, elevators and other farm retail outlets. It is commercially applicable in terminal and country grain elevators, mills, seed houses, bean plants, rice and hominy mills. It may be used on any grain, rice, beans, popcorn and garden and field seeds.

For complete information regarding the sale or use of these products please check No. 5182 on the coupon and mail it.

### No. 5174—Bag Printing

Samples of bag printing using the "texture" process as well as the half-tone method are available from the Fulton Bag & Cotton Mills. The company's texture process is known as Ful-Tone printing and is for use on multiwall paper bags. The reproduction of natural, lifelike pictures that result in more realism is claimed for the texture process. To secure samples of both methods of printing check No. 5174 on the coupon and mail it.

## Also Available

The following items have appeared in the What's New section of recent issues of CropLife. They are reprinted here to help keep retail dealers on rotational circulation informed of new industry products, literature and services.

### No. 6241—Soil Fumigant

Nemagon, a new soil fumigant for control of nematodes, which is said to have great stability in the soil, is now available for limited commercial use, it was announced by officials of the Agricultural Chemicals Division of Shell Chemical Corp. The product has been tested on cotton, grapes, citrus, and other tree crops such as peaches and walnuts. Some crops appear tolerant enough of this chemical so that applications can be made around the roots of the living plant, it is claimed. With established trees, applications of five to 10 gal. per acre have been used for control of a wide variety of nematodes to a depth of 4-6 ft. Nemagon (1, 2-dibromo, 3-chloropropane) is currently being manufactured on pilot plant

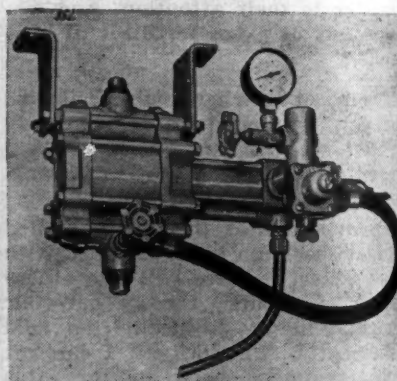
scale. Both liquid and dry formulations are being marketed. The product will be available for limited sales this season on such crops as citrus, cotton, and grapes. Nation-wide marketing is expected in 1956. To secure more complete details check No. 6241 on the coupon and mail it.

### No. 6242—Weed Killer

The Pacific Coast Borax Co.'s agricultural sales division announces the introduction of DB-Granular, a weed killer designed for agricultural weed problems including deep-rooted noxious perennial weeds. The product is a complex of disodium tetraborate and 2,4-dichlorophenoxyacetic acid. This new herbicide is applied in dry form just as it comes from 50 lb. multiwall paper sacks. DB-Granular for agricultural use is a companion product to the company's new Urea-bor introduced recently for industrial weed problems. To secure more complete details check No. 6242 on the coupon and mail it.

### No. 6246—Transfer Pump

A new pump for fast transfer of anhydrous ammonia has been announced by the John Blue Co. The pump starts and stops with a twist of a valve, according to a company announcement. It uses a small quantity



of ammonia vapor to drive the transfer pump, thereby reducing loss. Flow rates of 20 gal. per minute or more may be obtained with a loss of three-tenths of 1%, it is claimed. This means that a 100-gal. tank may be filled to 80% in 5 min. The pump is easily installed and weighs 27 lb. The firm's announcement states that the saving in ammonia alone will pay for the compressor within a short time and that it has other features such as low initial investment, elimination of the defoliation of crops and irritation to bystanders. Secure more details by checking No. 6246 on the coupon and mailing it to CropLife.

### No. 6234—Alfalfa Weevil Control

A two-color mailing piece on alfalfa weevil control with heptachlor is available to insecticide formulators, distributors and dealers. The 8 1/2 by 11 in. piece folds to handy mailing size and is ready for immediate use. Ample space is provided for dealer imprinting if desired. The folder tells actual case histories of heptachlor use in alfalfa country along with rates and methods of application. For a free supply check No. 6234 on the coupon and mail it.

### No. 6247—Lawn Fertilizer

Plantrons, a new high-analysis, soluble fertilizer in bead form for home lawns and gardens is being test marketed in the San Diego, Kansas City, Cleveland, Columbus, and Springfield, Mass., areas by Forward House, Inc., a division of Olin Mathieson Chemical

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| <input type="checkbox"/> No. 5174—Bag Printing     | <input type="checkbox"/> No. 6246—Transfer Pump    |
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| <input type="checkbox"/> No. 6241—Fumigant         | <input type="checkbox"/> No. 6250—Fungicide        |
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### No. 6245—Insecticide

Methyl parathion, an organic phosphate insecticide recommended for the control of insects and mites on cotton, now is available in commercial quantities from Monsanto Chemical Company's organic chemicals division. The compound is said to be effective in controlling the various species of aphids and mites when properly formulated and applied either as a liquid or a dust. It also is of value for boll weevil control. The properties of methyl parathion are similar to those of parathion, Monsanto's Niran. It has essentially the same order of toxicity as the latter, and equal care is necessary in the handling of it. Samples of methyl parathion, information on its properties and instructions for safe handling, formulating and applying the material are available on request. Just check No. 6245 on the coupon and drop it in the mail.

### No. 6250—Antibiotic Fungicide

New literature on Acti-dione, an antibiotic fungicide, has been prepared by its manufacturer, the Upjohn Co. Acti-dione ferrated is said to be an all-purpose product for controlling dollar spot, brown patch, melting-out and fading-out. The literature states that it "has not been found to kill bacteria when applied at recommended fungicidal strengths." Included in the literature are leaflets showing the control possible in the above four major bent grass diseases and the dosage schedule for the product. Information about the Upjohn product, Actispray, a fungicide for the treatment of cherry leaf spot on bearing cherry trees, is also available. Secure the literature by checking No. 6250 on the coupon and mailing it to this newspaper.

### No. 6236—Soil Cover

A new type vinyl plastic soil cover under the name of Larvacovers, for use in chemical and steam sterilization, is announced by Larvacide Products, Inc. The "life expectancy" of this new type cover is claimed to be increased significantly by a florist green tint coloring which increases resistance to deterioration from sunlight. Heavy duty, 8-gauge plastic film is used. The cover is manufactured specifically for use in chemical and steam soil treatment. However, they may be used also in irrigation ditch lining, water conservation, erosion prevention and in temporary greenhouse construction. More information is available without charge. Check No. 6236 on the coupon and mail it.

### No. 5108—Lease Plan

Under a recently inaugurated lease plan, material handling equipment manufactured by Barrett-Cravens Co., may be leased for three years or five years to responsible companies. The plan is not primarily a tax-saving device, but all monthly payments that the customer makes are fully deductible for federal income tax purposes, a company announcement states. There is no op-

tion to buy the equipment either during or at the end of the lease. The lease does contain an option for the customer to extend the lease at the end of the three-year or five-year period. Available for lease are: hand lift trucks, electric lift trucks, pallet lift trucks, fork trucks, industrial tractors, skids, portable elevators and cranes, storage racks and material handling specialties. More information on the plan may be obtained by checking No. 5108 on the coupon and dropping it in the mail.

### No. 6243—Chemicals Catalog

A revised edition of the Antara Chemicals catalog is now available. Information on chemical composition, physical properties and application is given on established products and new chemicals released in the past few months. The catalog includes a listing of intermediates, as well as detergents, wetting agents, emulsifiers and other chemicals. For a copy of the new catalog, check No. 6243 on the coupon and drop it in the mail.

### No. 6248—Anhydrous Ammonia Folder

"Mathieson Anhydrous Ammonia" is the title of a four-page folder published by the Olin Mathieson Chemical Corp. which answers a number of questions farmers ask about nitrogen for direct application to the soil: What is anhydrous ammonia? What happens in the soil? When should it be applied? How much should be applied? Copies of the folder are available without charge by checking No. 6248 on the coupon and mailing it to this newspaper.

### No. 5096—Viscosity Chart

A viscosity conversion chart for quickly translating any viscosity measurement into seven other standard units has been reprinted for distribution by Nopco Chemical Co. The conversion nomograph was designed to minimize problems caused by lack of standardization in measurement methods of various industries. It is intended for rapid estimation rather than extreme accuracy. To obtain a copy of the chart check No. 5096 on the coupon and drop it in the mail.

### Four Nitrogen Fertilizers Equally Good, Tests Show

COLLEGE STATION, TEXAS — Four different nitrogen fertilizers had about the same effect on cotton yields in experiments conducted by H. E. Dregne, agronomist for the Agricultural Experiment Station, New Mexico A&M College, State College, N.M.

The four fertilizers were urea, ammonium sulfate, ammonium nitrate and anhydrous ammonia.

Mr. Dregne applied the fertilizers at a rate of 80 lb. per acre to a Gila clay loam soil that had produced marked nitrogen deficiency symptoms on cotton in 1953. The variety which he planted was 1517C.

All the fertilizers except the anhydrous ammonia were placed in a band three inches to the side and three inches below the cotton seed on the furrow side of double row beds, at planting time. The anhydrous ammonia was injected on both sides of the cotton rows at a distance of about four inches from the row and to a depth of six inches, immediately after the cotton was planted.

The average yields of seed cotton in pounds per acre for the treatments showed no statistically significant differences among the four fertilizers. Tissue tests of the cotton plants showed no differences in nitrogen uptake from the several materials.



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## Bug of the Week

Twenty four of the insects described in Croplife's weekly feature, "Bug of the Week," have been reprinted into an attractive 8½ x 11 inch booklet for distribution to the trade. The price is 25c each in quantities up to 100; 20c each in quantities of 100-1,000, and 15c each in quantities over 1,000. Firms may have their names imprinted on the back cover at a moderate extra charge.

Included in the booklet are the following insects:

Alfalfa Weevil	Northern Corn Rootworm
Armyworm	Onion Thrip
Boll Weevil	Plum Curculio
Chinch Bug	Potato Leafhopper
Cotton Bollworm	Seed Corn Maggot
Cutworm	Sweetclover Weevil
Grasshopper	Tarnished Plant Bug
Imported Fire Ant	Tobacco Hornworm
Lawn Chinch Bug	Tomato Hornworm
Lygus Bug	Tuber Flea Beetle
Meadow Spittlebug	White Grub
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## FARM SERVICE DATA

Extension Station Reports

Feeding tests in Georgia show that lambs carried on a well-managed grazing system make just as much average daily gain as those given creep feeding in addition to grazing. Nor did supplemental feeding of the mother ewes make any real difference in the rate of gain.

All the test lambs sold for 26¢ lb. at prime and choice grades in the spring of 1954. Their average weight

was 90 lb. and their average age 127 days. They were offspring of upgraded native ewes bred to purebred Hampshire rams.

Pastures were of rye; ryegrass and crimson clover; and oats, ryegrass, and crimson clover grown on limed and fertilized land.

★

Higher profits await farmers who send their crops deep for water with

a soil program of fertilization and crop rotation.

Well-fertilized corn, for example, actually sends more elaborate root systems deeper to tap new water supplies, and yields more abundantly, M. K. Thornton, Texas A&M extension agricultural chemist, explains.

Mr. Thornton cites tests in Missouri where a six-year average yield of 100 bu. corn was produced on well-fertilized plots in a corn-oats-meadow-meadow rotation. Only 23 bu. were harvested from untreated plots in a corn-oats rotation plan. In the extremely dry year of 1953 these same plots yielded 79 and 18 bu. of corn, respectively.

The studies showed that corn on well-fertilized plots actually got a seventh more water than the others. The additional came mostly

from the subsoil, out of reach of the weaker root systems.

While higher yields came partly from greater water consumption, M. Thornton explains that the big increase came from more efficient use of available water—5,600 gal. to the bushel with good management and 21,000 gal. without.

Good management pays in other ways, too. Water run-off averaged about three inches per growing season from unfertilized corn, and less than one inch from fertilized corn in the four-year rotation. Soil losses were proportional, two and one-quarter tons to one-half ton, respectively.

★

The wise use of the correct amount and type of commercial fertilizer makes a lot of difference in yield for Louisiana watermelon growers, according to John A. Cox, Louisiana State University horticulturist. At the Calhoun Experiment Station, Chester Taylor has tested some different formulas of nitrogen, phosphorus and potash.

This work indicates that on sandy hill land, yields can be increased to more than 500 melons per acre. As a matter of fact, in 1951 yields of 1,252 marketable melons per acre were produced. The average weight of these melons was 23.5 lb. None weighed less than 20 lb. The average yield of marketable melons per acre in Louisiana is 230 to 300.

Apply fertilizer two weeks before planting seed, Mr. Cox advises. Apply 800 lb. 6-8-8, 8-8-8 or the equal per acre in the rows where the seed is to be planted. Apply 150 lb. nitrate of soda or equivalent as a side-dressing just before plants begin to put out runners.

★

A treatment that will enable sweet potato growers to prevent the thousands of dollars in losses they annually experience from damage caused by soil insects has been announced by the Louisiana State University Agricultural Experiment Station.

Soil insects have become increasingly important pests of sweet potatoes in Louisiana in recent years, according to E. H. Floyd, associate entomologist of the station, who has been conducting experiments aimed at their control. He reported that soil insects such as white grubs, crickets, flea-beetle larvae and wireworms have been controlled in state experiments by applying certain insecticides to the soil before setting the plants. Aldrin, chlordane and heptachlor have given good results.

★

The plant nutrients in fertilizers are members of a team that help build high crop yields. Each element has its work to do. Each reinforces the other. None can do the whole crop feeding job by itself. Farmers can't increase crop production by adding only one plant nutrient when others are short.

Agronomists point out that if a soil has plenty of phosphate and potash but is short on nitrogen, farmers won't get good yields unless you add that nitrogen. And the same is true if potash and/or phosphate are needed.

Different soils have different nutrient needs. One of the best guides in finding out what is needed is a soil test. This will give information about the nutrients required to grow crops what they need for a balanced ration.

### OAK WILT

BLACKSBURG, VA.—Oak wilt is present in Virginia forests. Over 100 diseased trees have been located in six counties.



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## Potash Deliveries in First Quarter Set New Record

WASHINGTON—The largest tonnage of potash ever shipped during any quarter by American producers was tallied by the seven major American producers during the first quarter of 1955, the American Potash Institute has announced. A total of 144,305 tons potash salts containing equivalent of 674,174 tons potassium oxide was delivered from January through March.

According to the API report, this represented an increase of 9% in salts and 10% in potassium oxide over the corresponding period of 1954.

Deliveries for agricultural purposes in the U.S., Canada, Cuba, Puerto Rico, and Hawaii consisted of 1,066,848 tons of potash salts equivalent to 626,630 tons of potassium oxide as compared to 590,932 tons of the oxide in the first three months of 1954.

Muriate of potash predominated with 591,010 tons potassium oxide, whereas 35,102 tons were delivered as sulfate of potash and sulfate of potash-magnesia, and 518 tons as manure salts.

Deliveries for chemical purposes totaled 45,447 tons of salts equivalent to 28,191 tons potassium oxide, an increase of 27 per cent in salts and oxides over the corresponding period a year earlier. Exports to other than institute countries amounted to 32,111 tons of potash salts containing 9,353 tons potassium oxide, a 14-fold increase in oxide over 1954.



Hubert H. Tucker



Russell I. Pisle, Jr.



James A. Kreglow

## Sohio Chemical Appoints 5 Agricultural Specialists to Sales, Service Posts

LIMA, OHIO—Sohio Chemical Co. has announced the appointment of five agricultural specialists to serve in various sales and service capacities, in connection with the firm's \$17 million nitrogen plant which is expected to begin production in November of this year.

The announcement, made by Edward F. Morrill, general manager of the petrochemical department, named the specialists as being Russell I. Pisle, Jr.; James A. Kreglow; Donald G. Miller and George L. McGuffey, in addition to Hubert H. Tucker, director of agricultural

service, whose appointment had been reported earlier. (Cropplife, page 2, Jan. 17, 1955).

Mr. Pisle, a graduate of Iowa State College, has been a field representative for the Nitrogen Division of Allied Chemical & Dye Corp. During World War II, he was a lieutenant in the U.S. Army artillery.

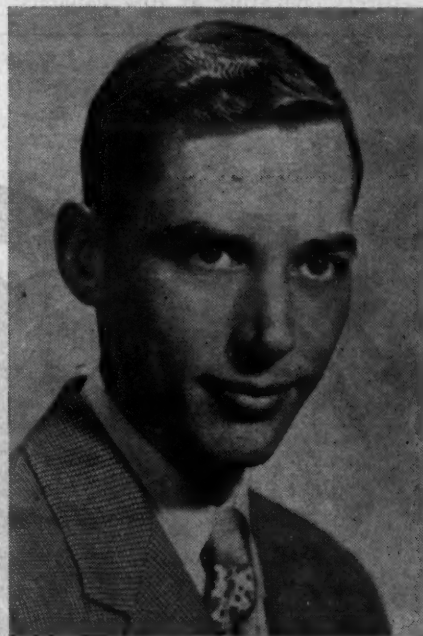
Mr. Kreglow holds a degree in agriculture from Ohio State University and is currently continuing graduate studies there. He was recently a vocational agriculture teacher in the schools of Fremont, Ohio. In World War II, he was a sergeant in the U.S. Marine Corps.

Mr. Miller, a graduate of Ohio State's College of Agriculture, has been associated with the teaching profession in Ohio for the past several years.

Mr. McGuffey, named an agricultural sales representative, has had 16 years in agricultural education, including seven years in vocational agriculture with boards of education in Kentucky and two years as vocational agriculture instructor in Ohio. For the past two years he has been a sales supervisor with Allied Chemical & Dye Corp.

H. H. Tucker was formerly president of the Coke Oven Ammonia Research Bureau in which position he served for 16 years. In his present position with Sohio, Mr. Tucker reports to Mr. Morrill, general manager.

According to Mr. Morrill, the new plant will produce anhydrous ammonia, nitrate solutions, and urea for agricultural use. Nitric acid will be produced as an industrial chemical. The addition of new personnel to the staff is preparatory to embarking on an intensive sales program for products of the new petrochemical plant, it is indicated.



Donald G. Miller



George L. McGuffey

## Use of Elemental Form for Fertilizer Labels Favored by Soil Science Society

MADISON, WIS.—An overwhelming vote by members of the Soil Science Society of America favoring adoption of the terms "P" and "K" to denote phosphoric acid and potash, respectively, has been announced by the SSSA.

According to L. G. Monthey, secretary of the group, the new and simplified method of labeling fertilizers rated affirmative votes from 5% of its membership. The proposed change in reporting the plant nutrient content of commercial fertilizers, soils and plant materials would

require statements of content of such nutrients in their elemental form as is now done in the case of nitrogen, known as "N".

Both phosphorus and potassium are now described in terms of their oxide form. "The use of the oxide form of reporting the composition of fertilizers, soils and plants, appears to be a hang-over from the method of rock analysis employed over a century ago," Mr. Monthey points out. "Early chemists used the oxide mode of reporting these analyses so as to give a total of 100% for complete analysis," he explains.

"The persistence of this method, which reports potassium (K) as  $K_2O$  and phosphorus (P) as  $P_2O_5$ , is mainly due to the survival of chemical terminology developed and put into use 100 or more years ago," according to a British soil scientist.

"The problem of changing to a simplified system has received more attention in some European countries than it has in the U.S. However, various conferences of American agricultural scientists have, over the past 30 years, concluded that there is no valid scientific reason for using  $P_2O_5$  and  $K_2O$  in place of P and K, respectively.

"The failure to adopt a uniform method of showing the nutrient content of fertilizers, soils and plants, has led to much confusion in both popular and technical literature. Even some well-known agricultural scientists have contradicted themselves within a single sentence or paragraph," Mr. Monthey observed.

### DUSTER KILLED

AURORA, N.C.—Thomas Tortory, 27, Belmar, N.J., crop duster, was killed recently when his small plane crashed near here after brushing a tree.

## DIG THAT CRAZY CUTWORM!

STATE COLLEGE, N.M.—The Extension Service of New Mexico's Agricultural Experiment Station, in a weekly bulletin addressed to farmers in the state, tells all about the tricks of the cutworm. It calls him one of the "most annoying pests of farmers and gardeners," and adds that it is "very sneaky and is seldom seen by the average person."

"Most farmers and flower gardeners have seen the results of the cutworm's work, although frequently the culprit is never found. Anyone who has gone into his field or garden plot and found plants cut off at ground level or leaves nipped off has seen cutworm injury. A little careful investigation will usually reveal the villain. Remove the soil from around the plant adjacent to the injured ones and you will probably find a curled up, greasy looking, ground-colored worm. Prod him with your finger and he 'plays dead.' Let him alone and watch. Soon he will 'come alive' and begin to burrow into the soil again. This, then, is the cutworm, the mower of plants, the clipper of leaves, the arch villain of the garden."

## KOREAN PLANT

(Continued from page 1)

Financing of the new fertilizer facility will be done largely by the FOA, and the facility will represent the first fertilizer plant in Korea, Mr. Norton said.

Construction will get under way immediately, according to Clifford S. Strike, president of McGraw. Mr. Strike recently attended conferences with President Syngman Rhee of the Republic of Korea and Sung-Tae Kang, minister of commerce and industry, concerning the fertilizer plant. A contract was signed in Seoul last week.

The project is expected to take 2½ years for completion, Mr. Norton said. The plant's annual output is estimated to be almost one

third of Korea's present agricultural needs.

Raw material to be used in manufacturing prilled urea will be fuel oil supplied by the government of Korea from sources not yet determined, Mr. Norton said.

Top supervisory and administrative personnel for construction of the plant are expected to be recruited in the U.S. The McGraw firm will handle the construction while the responsibilities of hydrocarbon will involve the processes, technical data, engineering and technical personnel to operate and maintain the plant, Mr. Norton said.

The site of the new fertilizer plant is approximately 80 miles southeast of Seoul on the Han River.





## WORLD REPORT

### Industry News from Everywhere

By **GEORGE E. SWARBRECK**  
Croplife Canadian and Overseas Editor

The Japanese chemical industry is booming. The basis of expansion has been the major demand for fertilizers to aid increased food production. Moreover, fertilizers are earning substantial amounts of foreign currency. Ammonium sulfate is bringing in \$27.4 million a year and phosphate fertilizers \$2.2 millions.

In 1953 the primary production of ammonium topped 609 million tons, twice the prewar level, with manufacturers operating at 70% capacity.

Government-provided capital and a subsidy system have helped the post-war recovery of the ammonium sulfate industry, so that by 1953 it was meeting a domestic requirement of 1.5 million tons for the year, as well as providing half a million tons for export markets.

The only drawback to development is the high cost of materials. The fertilizer industry depends a great deal on imported materials—in 1953 \$17.9 millions had to be

spent on phosphate ore—but despite this handicap the producers are making headway.

The annual productive capacity of calcium cyanamid is 520,000 tons and here costs are lower for the availability of native limestone is a major advantage. The producers of urea are moving ahead with plans for expansion and it is hoped that by 1956 the output will be in the region of 276,000 tons, as against the present 103,000 tons. Sulfuric acid production is rated at a little under 3 million tons a year.

This much is certain. Japan is going to become a formidable competitor in the fertilizer export markets in future years.

#### Egyptian Plant

From all parts of the world come reports of plans to increase fertilizer production. In Egypt, the government is sponsoring a plan to build a plant with a capacity of 50,000 tons a year. The cost is estimated at \$70 million.

From India, too, comes stories of determination to raise the availability of much-needed fertilizers.

The government is in the vanguard of the drive and steps have been taken to increase the production of ammonium sulfate at the Sindri plant to the rated capacity of 960 tons a day. The government-appointed Fertilizer Production Committee is working on recommendations for the creation of additional capacity of 12,000 tons nitrogenous fertilizers a year.

In 1954, India produced 340,000 tons ammonium sulfate, all under government sponsorship. But private enterprise is not completely out of the Indian picture. In the same year individual firms produced 105,000 tons superphosphate and 400 tons muriatic acid of potash. Several private firms are contemplating getting into the fertilizer business for the potential market is valuable. The Indians are becoming fertilizer minded for only revitalizing the land can they hope to gain self-sufficiency in food.

#### Stauffer de Mexico

A subsidiary of the Stauffer Chemical Co., Stauffer de Mexico, S.A. has announced the opening of an administrative office for eastern Mexico.

Also announced is the construction of a new insecticide plant at Reynosa, Tamps, to replace smaller facilities at Rio Bravo. Stauffer de Mexico, S.A. also manufactures insecticides at Nogales, Sonora and the west coast of Mexico.

#### Tobacco Danger

Cured tobacco growers in Eastern Canada have been warned that conditions are ideal for the growth of blue mold. Although the mold is more common in cool, cloudy weather, the rapid growth of the plants in warm weather makes them susceptible to disease. Lea S. Vickery, a government tobacco expert, recommends that growers should spray or dust the seed beds once every five days.

Also from a Canadian source comes the report that the cost of treating onion seed for the control of onion maggot in British Columbia has been reduced by 90% as a result of using DDT. The experiments were conducted by the Canadian government entomology laboratory at Kamloops, B.C. Officials consider that a further reduction will be possible when dieldrin comes into more general use.

#### Food Value Improved

The increased food value of hay grown on fertilized fields is being demonstrated in experiments at the University of Alberta, Canada. Rabbits fed hay grown on fertilized plots of grey-wooded soil have shown increased gains in weight of between 15 and 100% over rabbits fed on hay from unfertilized plots, with an average increase around 50%.

University officials say that while these results were all from soils that were deficient in sulfur, essential for the production of animal protein, other tests with fertilized grass and legumes on black soils are also showing promise. In tests on grey-wooded soils alfalfa and clover have had their protein content increased from 15 to 25% through the application of sulfur-containing fertilizers to the soil.

#### Charles H. Kline Heads New Climax Division

NEW YORK—Dr. Charles H. Kline has been named manager of the newly created Chemical Development Division of Climax Molybdenum Co., according to an announcement by R. E. Warriner, vice president in charge of sales. Special sections of the division will focus attention on using molybdenum in various fields, including fertilizers.



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suspension properties, its carefully controlled packaging which preserves its qualities. Remember, PESTMASTER\* 75% DDT Wettable does the job when it gets on the job—Asia, Africa, South America, Europe, here at home—wherever you want it. Write for prices, conditions, samples. Use the coupon.

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QUALITY PRODUCER OF PESTMASTER\* DDT & METHYL BROMIDE AND OTHER AGRICULTURAL CHEMICALS

D-55-1



## Cominco Addition Starts Operation

CALGARY — Arthur Wilkinson, manager of the fertilizer sales division of the Consolidated Mining & Smelting Co. of Canada, states that a new addition to the company's Calgary fertilizer plant is now operating. The capacity, which is mainly for ammonia production, is in excess of 100,000 tons a year.

The decision to increase capacity was sparked by the growing demand for anhydrous ammonia in the Pacific Northwest Section of the U.S., in parts of Western Canada, Mr. Wilkinson stated. The development in Calgary, he added, is only a part of Cominco's plans for a major expansion program.

Cominco now ranks as Canada's leading producer of fertilizers, with an annual output of high analysis fertilizers in the region of 750,000 tons a year. The company has another ammonia plant at Trail, B.C.

## Prospects Gloomy in West Texas Cotton Area

WUBBOCK, TEXAS—The 20-county West Texas area which produced over a million and a half bales of cotton in 1954 is faced with gloomy prospects this year.

While about half the area is under irrigation and not too much affected by the weather, the dry land areas are in much worse condition than last spring. Plagued by dust storms and lack of subsoil moisture, dryland fields must receive rain and a lot of it to come up with yield comparable to the one made last year.

The insect outlook is also somewhat darker than in 1954. The winter of pink bollworms was less than last year, said H. B. Prickett, director of the Bureau of Entomology and Plant Quarantine. While still too early to make an accurate prediction, Mr. Prickett thinks there will be more pink bollworms than last year.

In 1954, the cotton fleahopper cut down production by an estimated 10%. This will likely be less this year, because farmers in some areas were negligent in controlling them last year. Heavier fertilization is expected on irrigated land, though very little will be used on dryland cotton.

## Company Makes Fast Recovery from Fire

VINCENNES, IND. — The Liqui-Cor Corp. of Vincennes may have set some kind of a record for industrial resilience after a recent \$60,000 fire which swept through its buildings and wrecked its docks and much of its mixing equipment.

The company made its first shipments of liquid fertilizer just three days after the midnight blaze.

The physical plant was rebuilt in exactly two and a half weeks. Just a few days after that, the actual mixing processes for making its liquid fertilizers had been resumed.

Richard Schaffer, general manager, is announcing the resumption of the entire operation (mixing and shipping of dry and liquid fertilizers), said Schaffer, "was only a punctuation mark" in the rapid growth of Liqui-Cor.

## FARM LOANS INCREASE

LOUISVILLE, KY. — Tennessee farmers helped the Federal Land Bank of Louisville set a new 20-year record in loans during April when long-term first mortgage loans made to farmers in Tennessee, Ohio, Indiana and Kentucky amounted to \$60,000, reports M. S. Kennedy, president of the bank. April was the second consecutive month in which the bank has loaned \$4 million or more.

## Demonstration Plots Set Up in New Mexico

CARLSBAD, N.M. — One of the most popular services offered farmers by the New Mexico Extension Service is the farm demonstration plot. In several areas of the state actual experiments are carried out on farms under the supervision of Extension Service experts.

In Eddy County the number of supervised plots has been increased from seven to 12. Some of the cotton demonstrations for 1955 are as follows:

Albert Calvani Farm—Fertilization of cotton to determine economical rates of fertilizer. Eight different kinds of fertilizer will be tried on a nine-acre field.

Brown and Smith Farms—Fertilizer rates for cotton to find out the most profitable methods of fertilizing. Various combinations of phosphates and nitrogen will be tried on eight plots of 1½ acres each.

Adolph Zeleny Farm—Cotton spacing to determine correct ratio of plants in rows. Plants will be planted at various distances apart to determine most profitable spacing.

One other plot will be devoted to cotton fertilization, while the other eight will be assigned to testing out varieties of sorghums and other field crops.

## Diamond Promotion

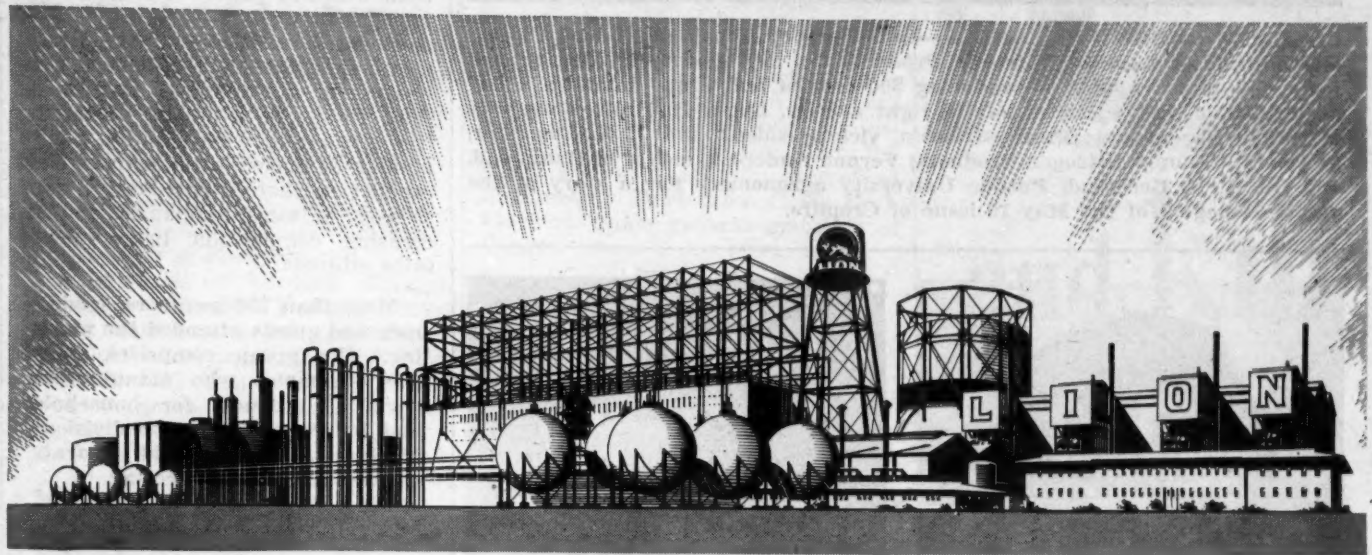
CLEVELAND—Promotion of Dr. William J. Lightfoot to the position of chief staff engineer in Diamond Alkali Co.'s Central Engineering Dept. has been announced by C. C. Brumbaugh, director of engineering. Dr. Lightfoot joined the Diamond organization in July, 1952, as a development engineer, and since then has been engaged in atomic energy and soda ash research projects. At his new post, he will be responsible for economic studies, process flow sheets and staff work in Diamond's Central Engineering Dept.

## POSTER WINS AWARD

WASHINGTON — The National Fertilizer Assn. wall poster, "How to Take a Soil Sample," has won first prize in the poster class of the fifth National Offset-Lithographic Awards Competition. John F. Gale handled production of the poster for NFA, and John Craddock, Washington artist, prepared the art work. The awards are sponsored by the Lithographers National Assn.

## Farm Chemurgic Council Reorganizes

WASHINGTON — The National Farm Chemurgic Council has been reorganized as the Council for Agricultural and Chemurgic Research. Henry T. McKnight, president of the group, said that its aim is to vigorously promote agricultural research and the extension of its findings.



## How LION Helps YOU Sell NITROGEN FERTILIZERS

- ✓ Two Giant Chemical Plants Assure the Supply
- ✓ Advertising Helps Create the Demand

As a retailer, you'll find it to your advantage to sell Lion nitrogen fertilizers, because Lion's manufacturing capacity and storage facilities assure a ready supply of top-quality materials, and Lion's consistent advertising pre-sells the Lion brand.

Capacity? Lion's two giant chemical plants are now in production, making Lion a leader in manufacturing the most popular and economical types of nitrogen fertilizers not only in the South but nation-wide.

Delivery? Lion has constructed huge storage facilities to accumulate enormous stocks of the various nitrogen fertilizer materials. Even when demand is intense, you can get Lion nitrogen products.

Pre-selling? Lion's continuous advertising does an effective pre-selling job for you with your farmer customers. See list below.

Feature and sell nitrogen fertilizers with the Lion emblem on the bag, or Lion's anhydrous ammonia. You'll make sales easier, which means more profit for you.

## Look To LION—A Leader In Petro-Chemicals—For Nitrogen Fertilizers

Lion Anhydrous Ammonia • Lion Ammonium Nitrate Fertilizer  
Lion Aqua Ammonia • Lion Nitrogen Fertilizer Solutions  
Lion Sulphate of Ammonia

LION FERTILIZER ADVERTISING REGULARLY APPEARS IN:

- Farm & Ranch—Southern Agriculturist
- Prairie Farmer
- Progressive Farmer
- Wallace's Farmer & Iowa Homestead
- Leading State Farm Publications

DISTRICT SALES OFFICES:  
NATIONAL BANK OF COMMERCE BLDG., NEW ORLEANS, LOUISIANA  
SHEPHERD BUILDING, MONTGOMERY, ALABAMA

LION OIL  
CHEMICAL SALES DIVISION



COMPANY  
EL DORADO, ARKANSAS





**CALUMET GROUND BREAKING**—University of Illinois plant food experts and officials of Calumet Nitrogen Products Co. are shown breaking ground for a new plant capable of producing 300 tons of anhydrous ammonia a day at Hammond, Ind. Pictured left to right are Dr. Roger H. Bray, University of Illinois agronomist; E. W. Griscom, vice president, and J. H. Forrester, president, Calumet Nitrogen Products; Vernon Anderson, mayor of Hammond, and Dr. A. R. Bertrand, Purdue University agronomist. For a story of the plant see page 1 of the May 16 issue of Croplife.



Rudy Creasy



Irwin C. Elliott

**REPRESENTATIVES NAMED**—The appointment of Rudy Creasy and Irwin C. Elliott as sales representatives for the Agricultural Chemicals Division, Pittsburgh Coke & Chemical Co., Pittsburgh, Pa., has been announced by W. Scott James, division sales manager. Mr. Creasy, who will serve out of the company's St. Louis office, is a graduate of the University of Missouri, where he majored in forestry. Prior to his appointment, he was associated with the Plant Food Division of the Missouri Farmers Assn. Mr. Elliott will headquarter at the Pittsburgh Coke & Chemical Co. Denver office. He is a graduate of Colorado A&M., where he majored in animal husbandry and agricultural education. Prior to his appointment, he served as a partner and manager of Pueblo (Col.) Chemical Co., and as the assistant state supervisor of agricultural education of Colorado.



**AT PESTICIDE MEETING**—Shown above, at the recent meeting of the new Carolinas-Virginia Pesticide Formulators Assn., are, from left to right, Dr. Clyde F. Smith, head of the department of entomology, North Carolina State College; W. R. Peele, W. R. Peele Co., president of the association, and Dr. E. Ellis, head of the department of plant pathology, North Carolina State College. For a report of the meeting see page 1 of the May 9 issue of Croplife.

## Business Prospects for 1955 Appear Bright, Speakers Tell Chemical Specialties Group

By HENRY S. FRENCH  
Croplife Editorial Staff

CHICAGO, ILL.—"There seems to be little likelihood in the immediate future of more than a hardly perceptible downturn in the chemical industry—despite the fast pace set so far this year."

Thus did Melvin Fuld, Fuld Bros., Inc., Baltimore, Md., and president of The Chemical Specialties Manufacturers Association, Inc., summarize the situation before the group's 41st mid-year meeting held at the Drake Hotel in Chicago, May 15-17.

"General business activity continues to move along at a very gratifying pace," continued Mr. Fuld, "and the high degree of momentum which has been attained points to a good volume for many months to come." The chemical specialties industry should move along at an accelerated pace because of a number of factors, he said. First, the stimulus of buying has created increased activity in a number of important industries. New product marketing has been a spur to sales of some companies, and increasing competition has renewed sales efforts.

More than 750 members, tradesmen and guests attended the meeting. The group comprises some 350 companies who manufacture chemical products for household and industry. Six active divisions of the organization held separate sessions during the meeting.

Addressing one of the divisions—Insecticide—George W. Fiero, Esso Standard Oil Co., New York City, said that sales of liquid insecticide sprays in the U.S. totaled 10.4 million gallons in 1954, an increase of 21% over 1953. This information was revealed in a survey conducted by the association.

Slightly more than 81% of the record breaking production, reported Mr. Fiero, was sold in smaller package sizes, up to and including 1 gal. Chlordane residual type sprays now constitute the greatest share of the package market for insecticides, accounting for 35% of the 1954 sales of all insecticides. In bulk sizes, however, space sprays far outsold residual types last year.

Package sizes of oil-base livestock sprays accounted for 891,750 gal. of sales last year, up 31% from 1953, while bulk sizes increased 22% last year to 1,071,434 gal.

In another report, Dr. George C. Decker, head of the section of Economic Entomology, Illinois Natural History Survey and Illinois Agricultural Experiment Station, Urbana, Ill., said that the results of research conducted in the last few years tend to cast doubt on the conclusion drawn from studies carried on prior to 1945, that the activities of flies and/or the use of fly spray on livestock had little or no bearing on milk or milk production.

It would appear said Dr. Decker, that experimental methods employed in years past, although well adapted for comparing the efficiency of fly sprays, were entirely inadequate to develop the desired data on milk and meat production. Recent data indicate the adverse effects of fly activity are quite obviously cumulative in nature, and that the spread in production between treated and untreated animals increases with time. Therefore, long term, uninterrupted studies are needed to development of significant data.

During a panel discussion on the use of point of purchase displays in the chemical specialties industry,

Dr. Roger W. Roth, sales manager of the insecticide division of the Veliscol Corp., Chicago, compared point of sale material to a detonating cap which explodes a shell. If the material is ineffective, or the workmanship bad, he said, it is entirely possible that one's efforts can misfire. On the other hand, this material, properly prepared and timed, can often be the determining factor in making advertising pay off in sales.

Other members of the panel included L. E. Carls, advertising manager of Veliscol Corp., and Messrs. Earl M. Roach and Daniel Kemper, sales engineer with Arvey Corp., Chicago.

CSMA announced that its next meeting will mark its 42nd annual convention, scheduled to be held at the Roosevelt Hotel, New York City, Dec. 5-7, 1955.

## FERTILIZER USE

(Continued from page 1)

By regions, 1953-54 consumption, compared with that of the previous year, was as follows:

New England (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut) — 416,750 tons, down 11%.

Middle Atlantic (New York, New Jersey, Pennsylvania, Delaware, District of Columbia, Maryland and West Virginia) — 2,068,705 tons, down 2%.

South Atlantic (Virginia, North Carolina, South Carolina, Georgia and Florida) — 6,143,089 tons, down 2%.

East North Central (Ohio, Indiana, Illinois, Michigan and Wisconsin) — 4,822,638 tons, down 5%.

West North Central (Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas) — 2,224,242 tons, up 6%.

East South Central (Kentucky, Tennessee, Alabama and Mississippi) — 3,023,899 tons, down 5%.

West South Central (Arkansas, Louisiana, Oklahoma and Texas) — 1,394,828 tons, no change.

Mountain (Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah and Nevada) — 393,200 tons, up 6%.

Pacific (Washington, Oregon and California) — 1,874,637 tons, up 9%.

Other statistics from the report:

★ Consumption of primary nutrients during the year was nitrogen 1,847,416 tons, available P<sub>2</sub>O<sub>5</sub>, 2,241,100 tons (total P<sub>2</sub>O<sub>5</sub>, 2,646,971 tons) and K<sub>2</sub>O, 1,806,042 tons.

★ The average nutrient content of fertilizer rose to 26.61%, from 25.05% in 1952-53. The weighted average plant food content in mixtures was 5.01-11.59-10.27, compared with 4.11-3.4-9.87 a year earlier.

★ Consumption of secondary and trace element materials, not including those used in manufacture of mixtures, totaled 615,513 tons.

The complete report will be published in next week's issue of Croplife.

## Robert J. Koll Named Diamond Plant Manager

CLEVELAND — Appointment of Robert J. Koll as plant manager of Diamond Alkali Co.'s Greens Bay Plant at Houston, Texas, has been announced by Loren P. Scoville, general manager of the firm's Chlorinated Products Division. Replacing Harry S. Curtis, who has resigned, Koll takes over his new post with background of 15 years' experience in the chemical industry.



## HOOVER COMMISSION

(Continued from page 1)

private enterprise until in 1954 sales totaled 19.8 million dollars of phosphate and nitrate fertilizers. The 360,000 tons sold composed about 4% of the national production. Sales were made in 35 states and this is no longer a regional operation as originally contemplated.

"The TVA, being tax exempt, does not in its cost include an equivalent of heavy taxes which private industry pays and certain other costs. Whether adequate depreciation, interest on investment, amortization and fringe benefits to staff are included in costs could be properly determined only by the comptroller general.

"There is no longer justification for the research activities as these may be more appropriately conducted by USDA and the industry."

The commission, in passing, notes that the government has disposed of its other World War II nitrogen and chemical plants.

On the basis of the commission's study and report showing that this TVA tax-exempt operation is producing and selling 4% of the national total sales of phosphate and nitrogen fertilizer materials through 35 states, it is not an exaggeration to conclude that Uncle Sam is the next door competitor of fertilizer dealers in not less than 35 states. And Uncle Sam, as the commission notes, pays no taxes.

It also appears that his selling price may be one of fancy rather than fact since many normal cost factors of a private manufacturer are not included in the government price tag.

## INSECT NOTES

(Continued from page 5)

beans and corn were destroyed at Pinetta, Madison County, by Wolly bear, averaging 2 larvae per square foot. Tiger moth caused serious damage to watermelons, corn and cotton in Madison County. Minor damage to tobacco was done at Providence, Union County, by tobacco hornworm.

Granulate cutworm was also active in Santa Rosa County where it destroyed 95% of a small area of cotton. From 4 to 8 larvae per plant were found and up to 8 cutworms were dug from beneath each plant.—H. A. Denmark.

Orchard Scab Found  
in New Jersey Areas

NEW BRUNSWICK, N.J.—Favorable weather conditions for spraying, plus fairly close following of spray schedules, has resulted in good control of scab throughout the state of New Jersey. In orchards where spray scheduling was poor or where unsprayed trees were left, active secondary scab is now seen in southern and central counties and primary scab in northern counties.

Adult female European red mites and some egg-laying were found in the counties of Cumberland, Burlington and Gloucester. About half of the egg masses found in south Jersey have hatched.

Reports of serious cutworm damage on tomato and other vegetable transplants have been received. Farmers are being urged to be ready with sprayers and dusters to control flea beetles and other chewing insects.—Leland G. Merrill, Jr. and Spencer H. Davis, Jr.

## DEMONSTRATION FARM

LEXINGTON, KY.—The University of Kentucky has approved purchase of a 660 acre farm near Owen for demonstration work.



A. B. Verdery

A. B. Verdery Named  
To District Sales Post  
By Olin Mathieson

BALTIMORE—A. B. Verdery has been appointed eastern district sales manager of Olin Mathieson Chemical Corp.'s Eastern Fertilizer Division, John Nason, division general manager, has announced. His headquarters will be in Baltimore.

A graduate of Clemson College, Clemson, S.C., Mr. Verdery has a broad background of agricultural chemical sales experience, and from 1950 to 1953 was president of his own company, the Augusta (Ga.) Fertilizer Co.

Work to Start Soon  
On New Stauffer  
Carbon Bisulfide Plant

MOBILE, ALA.—Stauffer Chemical Co. will begin construction shortly on a new multi-million dollar plant here for production of carbon bisulfide.

Hans Stauffer, president of the chemical firm, said the new plant will use a newly developed process and will enjoy a favorable raw material position with respect to natural gas and sulfur.

The carbon bisulfide produced at the new facilities will be used by another manufacturer in that area for making rayon, according to a company spokesman. The chemical is used mostly in rayon manufacturing, he said, with use in making rubber and agricultural fumigants of second importance. The new plant is expected to begin operating in the spring of 1956.

Herbicides Effective  
in Texas Experiments

YSLETA, TEXAS—The effectiveness of pre-emergence herbicides in keeping down weeds and grass along irrigation ditches has been proven by a series of tests at the Ysleta Station.

Tests were also conducted near White Spur on the Erick Brandes farm and on the Leonard Davis farm near Pecos, where results were satisfactory. In every case, the herbicide Alanap prevented the growth of early grasses and weeds.

Dr. P. J. Lyerly, Superintendent of Ysleta Station, is recommending that farmers in the irrigation areas try this new herbicide on a small scale.

## PROPOSED STOCK SPLIT

ST. LOUIS—Monsanto Chemical Co. stockholders will vote July 1 on a three-for-one common stock split. Under the proposal, authorized shares would be increased from six million of \$5 par value to 25 million of \$2 par value.

POTASH DEVELOPMENT  
FIRM INCORPORATES

DOVER, DEL.—Farm Chemical & Resources Development Corp., Oklahoma City, has been incorporated here with an authorized capital stock of \$2 million.

The firm, half interest of which is owned by the National Farmers Union, Denver; a quarter by Kerr-McGee Oil Industries, Oklahoma City; and a quarter by Phillips Chemical Co., Bartlesville, Okla., will carry on development work with potash shafts in Lea County, New Mexico, according to information received in a telephone interview with A. T. F. Seale, vice president of Kerr-McGee.

Mr. Seale indicated that the new corporation expects to continue its exploration in New Mexico and that shafts have already been dug in the potash fields there. (For background see Croplife, page 1, Nov. 1; page 1, Jan. 31, and page 1, March 21.)

## City Seeks Office

ARTESIA, N.M.—The local chamber of commerce is working to get the offices of the National Farmers Union-Kerr-McGee Oil Industry potash project located in this city when the new potash plant is established. Indications are that the offices will be placed here, according to a recent letter from C. E. Huff, Farmers Union general manager at Denver.

Marketing Quotas  
Proclaimed for  
1956 Wheat Crop

WASHINGTON—Ezra Taft Benson, has announced the following actions in connection with the 1956 wheat program:

1. Proclaimed a national wheat marketing quota for the 1956 wheat crop, as required by law.

2. Announced a national wheat acreage allotment of 55 million acres for 1956—the level specified by law under present conditions of excessive supply, and the same allotment which was in effect for 1955.

3. Set June 25 as the date for the national referendum among wheat growers on whether or not quotas will be in effect for the 1956 crop.

4. Announced that, based on latest available supply information, a national average support price for 1956 production would be determined and announced before the wheat referendum.

Researchers Report  
No Russeting from  
Pear Blight Controls

DAVIS, CAL.—Pear growers can continue to use copper dusts in controlling fire blight without fear that such dusts contribute to russeting, according to tests completed at the University of California here. Whether the trees in the two-year tests were dusted with copper, sprayed with Streptomycin, or not treated at all, there were no significant differences in russeting.

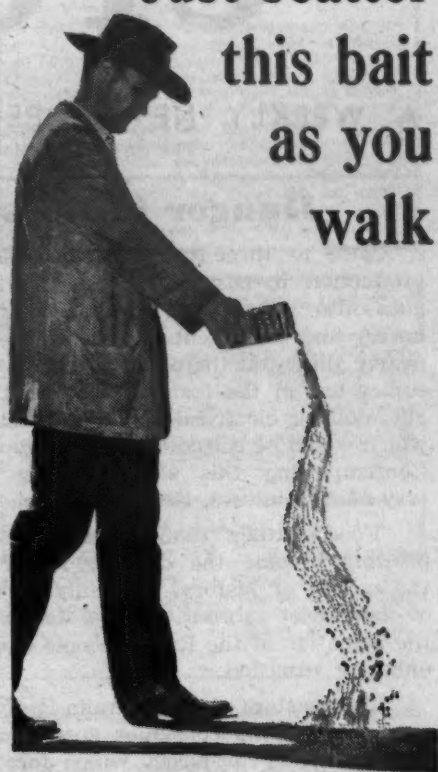
Pomology professors Richard W. Harris and William H. Griggs, both at the College of Agriculture, reported that the tests were conducted in a Placer County foothill orchard and in Sacramento Valley.

They said that russeting was significantly increased in one orchard when copper was applied as a spray in the form of 20% basic cupric zinc sulfate complex in combination with DDT and wettable sulfur.

## NAMED TO SALES POST

NEW YORK—C. T. Robertson has been appointed to the newly created position of assistant district sales manager of Columbia-Southern Chemical Corp.'s New York city district office.

Just scatter  
this bait  
as you  
walk



and kill  
flies



A dry granule  
bait—kills both  
resistant and  
non-resistant  
house flies.

New, easiest way ever to control house flies in and around barns, poultry sheds, out buildings, stables, garbage disposal areas, drive-in restaurants.

Simple as shaking salt—Open the shaker can and scatter lightly around fly feeding areas.

Fast! You can bait several hundred square feet in 2 or 3 minutes.

Effective! This attractive-type bait lures flies, they feed and die.

Low cost, too! One pound covers 2,000 square feet of fly feeding areas.

Space spray gives  
rapid knockdown

ORTHO Fly Spray is an ideal space spray which gives quick kill on contact and provides excellent control of the lesser house fly.

On all chemicals, read directions  
and cautions before use.

World leader in  
scientific pest control

**ORTHO**  
SCIENTIFIC PEST CONTROL

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(Offices throughout U. S. A.)



# Croplife

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Southern states.

## Hunger in Russia

Close to three-fourths of Russia's industrial production by-passes the consumer. Instead, it goes into industry to produce more heavy industry and armaments. In the U.S., by contrast, nearly three-fourths of all production is for consumer use in the form of food, clothing, homes, automobiles, electrical appliances and many items which would be considered luxury goods in Russia. Contemplating this situation, the U.S. Secretary of Agriculture, Ezra T. Benson, concludes:

"Food, rather than nuclear weapons, could possibly become the decisive factor in shaping the course of history. Certainly at least a part of the Soviet sabre-rattling is designed to divert the attention of the Russia people from their own unhappy situation.

"The masters of the Kremlin imply that shortages of food and consumer goods are the result of a capitalist conspiracy which forces Russia to devote so much of its production to defense of the homeland. Yet the Russian peasants and workers may wonder how it is that the so-called 'decadent' nations of the free world are able to mount this alleged threat of aggregation against the Soviet Union — and still devote by far the greater part of their total production to improving the living standards of their people.

"Many factors doubtless entered into the recent shakeup in the Kremlin. Among them, however, agricultural problems certainly loomed large. Russian agriculture has been chronically ill for a long time. Shocking admissions of past failures were publicly aired within a few months of Stalin's death. The list of Beria's crimes on the occasion of his liquidation in the summer of 1953 included charges that he opposed measures necessary for the improvement of agriculture.

"Malenkov's recent ouster was accompanied by his 'admission' of 'guilt' for the agricultural situation. Attribution of responsibility for agricultural difficulties to these two individuals does not mean that they were in fact the ones at fault. Khrushchev actually had a far greater hand in agricultural policy over the years than Malenkov. But the care exercised to make first Beria and then Malenkov scapegoats for failure in this field is indicative of the magnitude of the agricultural problem.

"The maintenance of an expanding, prosperous and free agriculture in our own country is essential to the security of the U.S. I would place special emphasis upon a free agriculture. Freedom makes for progress. Without freedom our own farmers would be unlikely to fare much better than those of the Soviet Union. Certainly the example of Russia should be convincing evidence that the withering hand of totalitarian control blights all of agriculture.

"As Thomas Jefferson once wrote: 'Were we directed from Washington when to sow and when to reap, we should soon want bread.'

"Perhaps this quotation has come to the attention of the Russian leadership. At any rate, just the other day, it was announced that the practice of handing down planting and production decrees from Moscow would be modified to permit a much greater voice in such decisions by farmers and farm managers.

"If the Russian government has done nothing else for the free world, it has at least provided a laboratory for testing nearly every conceivable means of state intervention in agriculture. It has demonstrated for all to see that farming will not flourish in a climate which denies real incentives to farmers. It has proved beyond a doubt that complete regimentation stifles agricultural production. It has demonstrated that the agricultural system it seeks to impose on other countries as a part of the communist yoke yields only chronic short-

ages. It has unwittingly provided the entire world with a most unfavorable comparison of the merits of Communism versus private enterprise in the field of food production.

"There is a moral in all of this for America. Farmers in this country have had ample opportunity to try on for size the straitjacket of production and price controls and marketing restrictions. Most of them didn't like the fit.

"The long-range objective of this Administration's farm program is to bring about greater stability of income, better balanced production and, with this, greater freedom for farmers to make their own management decisions. I am confident that we will succeed."

These paragraphs from a recent address by Secretary Benson should be required background reading for maudlin sentimentalists who would use the abundant fruits of American agriculture and enterprise to assuage the hunger resulting from the Soviet system of agricultural planning, and for those welfare-state planners of our own country who would apply to our farm problems an American equivalent of the Soviet philosophy of planned agriculture.

## Research by the Millions

The need for more research is a theme heard frequently around the industry and indeed a great deal is being done about it. Leaders in the trade know that no industry can sit back and coast along on momentum, particularly the pesticide industry.

W. W. Allen, president of the National Agricultural Chemicals Assn., expressed these sentiments very well in his recent comments in "Cotton Insect Control" published by the National Cotton Council, Inc. Mr. Allen observes that "when a new agricultural chemical comes on the market, you can usually figure that it cost some private company well over a million dollars worth of research to develop it.

"In an average year, the chemical industry spends at least nine million dollars on research to find new or improved materials for use by farmers. So you can see that our contribution to the nation's over-all program of agricultural chemical research is very substantial.

"Our research expenditures are motivated, of course, by the desire to make a profit. American business derives its great drive from this incentive.

"But our profit is geared to our output, and our output depends on what the public will buy. In short, as we work for profits, we are necessarily obliged to work for the public as well.

"With this in mind, it is only common sense for the agricultural chemical companies to want to work closely with the public agencies that do research to serve the farmer and the nation.

"Public agencies have two major tasks. One is to carry forward important basic research in which industry is not engaged—research into such matters as plant growth regulation, life history and habits of insects, identification and taxonomy of many kinds of insects and diseases.

"The other task is to work in a kind of partnership with industry, to develop and adapt the findings of both government and industry research in the effort to bring about practical use of pesticides.

"It is this type of joint effort which has made agricultural chemicals one of the great new tools for farmers."



CROPLIFE is a controlled circulation journal mailed to those responsible for the production and distribution of fertilizer and other farm chemicals and to retail dealers of the agricultural chemical industry in the U.S. To those not on the controlled list, CROPLIFE is available at \$5 for one year, \$9 for two years (\$8 a year outside the U.S. and possessions). Single copy price, 25¢.

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# MEETING MEMOS

June 2 — South Carolina Fertilizer Meeting, Sandhill Experiment Station, near Columbia, S.C.

June 3 — Fertilizer Section, Virginia State Safety Assn., Jefferson Hotel, Richmond, Va.; William C. Richardson, Southern States Cooperative, Richmond, Chairman.

June 12 — Executive Committee, Fertilizer Section, National Safety Council, Roanoke, Va.; Thos. J. Clarke, GLF Exchange, Ithaca, N.Y., Chairman.

June 12-15 — Joint meeting, American Plant Food Council, Inc. and National Fertilizer Assn., Greenbrier Hotel, White Sulphur Springs, W. Va.; Paul T. Truitt, American Plant Food Council, 910 17th St. N.W., Washington, D.C., in charge of registration.

June 14-16 — Symposium on Fertilizer Economics Research, Sponsored by Agricultural Relations Division of TVA, Knoxville.

June 21 — Western Agricultural Chemicals Assn., Spring Meeting, Clark Hotel, Los Angeles; O. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., Secretary.

June 22 — Pacific Slope Branch, Entomological Society of America, Mission Inn, Riverside, Cal.

June 22-24 — Association of Southern Feed & Fertilizer Control Officials, Jung Hotel, New Orleans.

June 28-30 — Sixth Annual Pacific Northwest Plant Food Assn., Regional Fertilizer Conference, Boise Hotel, Boise, Idaho; Leon S. Jackson, 702 Lewis Bldg., Portland, Ore., Secretary.

July 5-8 — Plant Food Producers of Eastern Canada, Bigwin Inn, Muskoka, Canada.

July 14-15 — Southwest Fertilizer Conference and Grade Meeting, Buccaneer Hotel, Galveston, Texas.

July 21-22 — Great Plains Agricultural Ammonia Assn. Midwest Trade Show & Field Day; Business Session for Members July 21 at Hotel Fort Des Moines, Des Moines, Iowa; Field Day July 22 at Iowa State College, Ames; James Andrew, Box 447, Jefferson, Iowa, Secretary.

Aug. 8-10 — Summer Meeting of North Central Division, American Phytopathological Society, Wooster, Ohio; further information from H. C. Young, Dept. of Botany & Plant Pathology, Ohio Agricultural Experiment Station, Wooster, Ohio.

Aug. 9-11 — Ohio Pesticide Institute Meeting and Field Tour, Wooster, Ohio; Dr. J. D. Wilson, Ohio Agricultural Experiment Station, Wooster, Secretary.

Aug. 10 — Kentucky Fertilizer Conference; Guilford Theatre, University of Kentucky, Lexington.

Aug. 15 — National Joint Committee on Fertilizer Application, Cooperative Meeting with the American Society of Agronomy, University of California, Davis Campus.

Aug. 15-19 — American Society of Agronomy and Soil Science Society of America, University of California, Davis Campus.

Aug. 15-20 — Farm & Home Mechanization Pageant, Michigan State College, East Lansing, Mich.

Sept. 7-9 — National Agricultural Chemicals Assn., Spring Lake, N.J.; Lea S. Hitchner, NAC Executive Secretary, 1145 19th St. N.W., Washington 6, D.C.

Sept. 7-9 — Ninth Annual Beltwide Texas A&M College, National Cotton Council of America, Box 18, Cotton Mechanization Conference, Memphis 1, Tenn.

Oct. 17-18 — Fertilizer Section, National Safety Congress, LaSalle Hotel, Chicago; Thomas J. Clarke, Chairman.

Nov. 2-3 — Annual Convention, Pacific Northwest Plant Food Assn., Pilot Butte Inn, Bend, Ore.; Leon S. Jackson, 702 Lewis Bldg., Portland, Ore., Secretary.

Nov. 3-4 — Northeastern Division, American Phytopathological Society, Eastern States Farmers Exchange, Inc., 26 Central St., West Springfield, Mass. B. H. Davis, Department of Plant Pathology, Rutgers University, New Brunswick, N.J., secretary.

Nov. 7-8 — California Fertilizer Assn., Thirty Second Annual Convention, Hotel Mark Hopkins, San Francisco; Sidney H. Bierly, Executive Secretary & Manager, 475 Huntington Drive, San Marino, Cal.

Nov. 29-Dec. 2 — Entomological Society of America, Netherlands Plaza Hotel, Cincinnati.

Dec. 5-7 — Agricultural Ammonia Institute, Kansas City; Jack F. Criswell, Executive Vice President, Claridge Hotel, Memphis, Tenn.

Dec. 15-16 — Beltwide Cotton Production Conference, Hotel Peabody, Memphis, Sponsored by the National Cotton Council.

Dec. 28-30 — American Phytopathological Society, Atlanta, Ga.; Glenn S. Pound, University of Wisconsin, Madison, Wis., Secretary.

1956

Jan. 4-6 — Weed Society of America, Charter Meeting, Hotel New Yorker, New York, W. C. Shaw, U.S. Department of Agriculture, Beltsville, Md., Secretary-Treasurer.

Jan. 26-29 — Agricultural Aircraft Assn., Inc., Sixth Annual Convention, Wilton Hotel, Long Beach, Cal.; Wanda Branstetter, Route 3,

## Classified Ads

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Box 1077, Sacramento, Cal., Executive Secretary.

Feb. 15-17 — Western Weed Control Conference, Sacramento and Davis, Cal.; W. C. Robacker, U.S. Department of Agriculture, Nevada Agricultural Experiment Station, Reno, Nev., Secretary-Treasurer.

Feb. 15-17 — California Weed Control Conference, Sacramento and Davis, Cal.; Oliver A. Leonard, Botany Dept., University of California, Davis, Cal., Secretary.

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